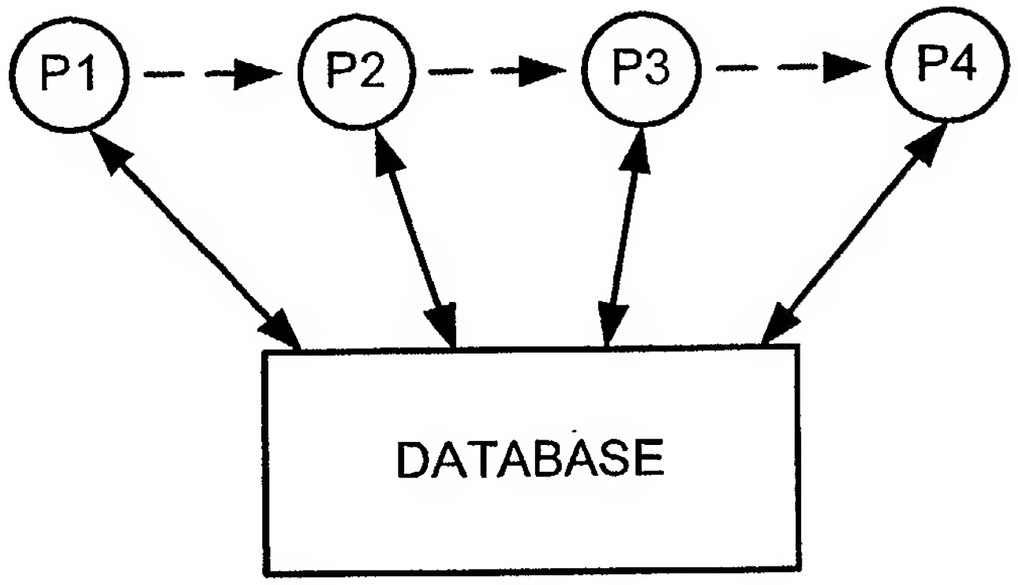
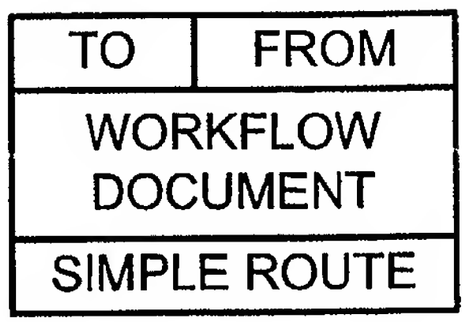
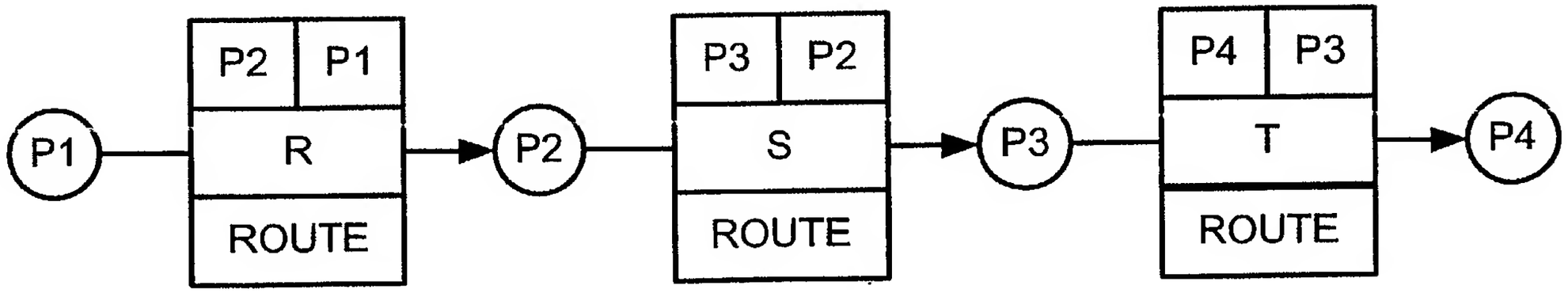


DATABASE WORKFLOW

FIGURE 1A



EMAIL MESSAGE



ELECTRONIC MAIL WORKFLOW

FIGURE 1B

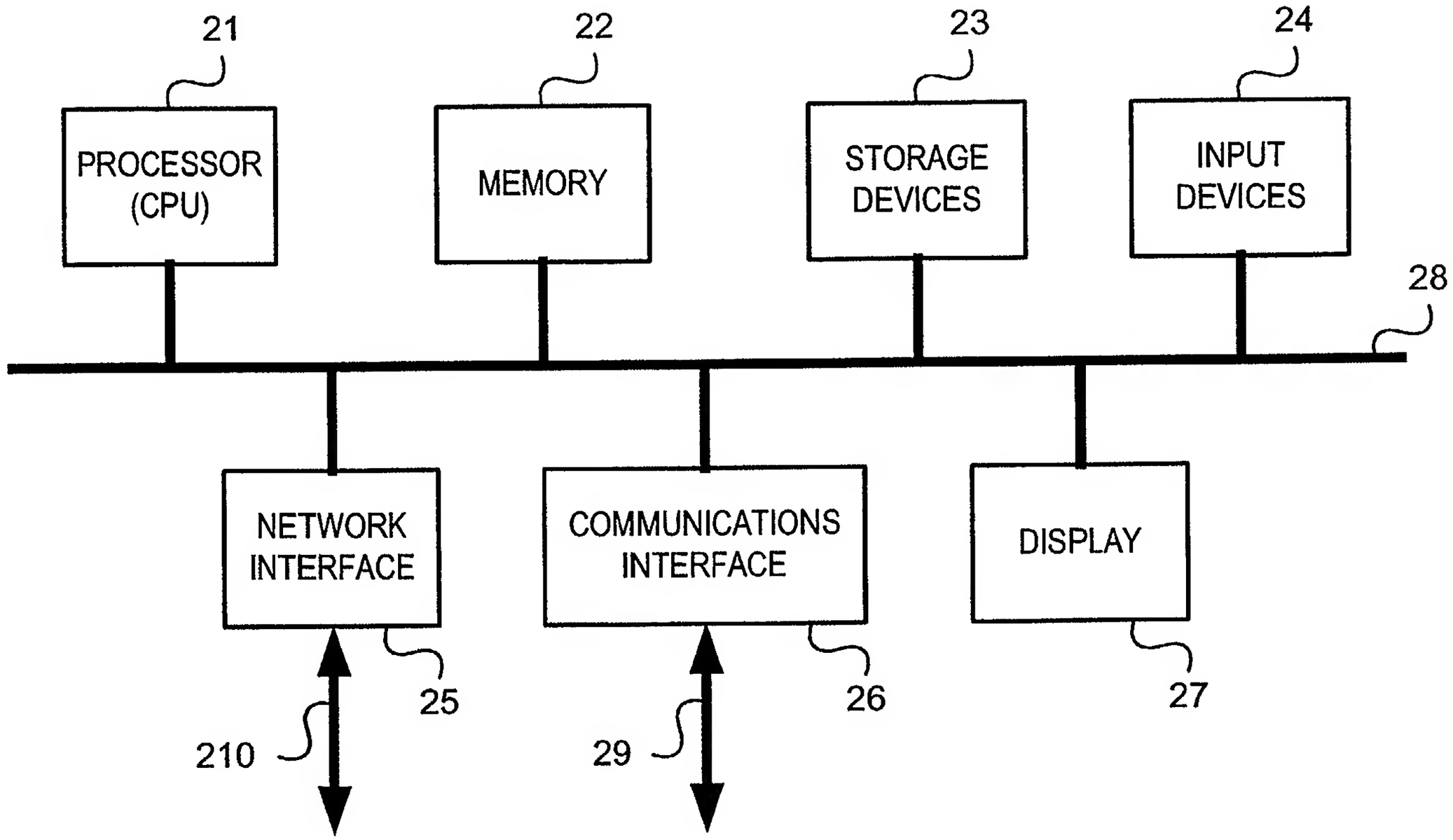

21
22
23
24
PROCESSOR (CPU)
MEMORY
STORAGE DEVICES
INPUT DEVICES
28
NETWORK INTERFACE
COMMUNICATIONS INTERFACE
DISPLAY
25
26
27
210
29

FIGURE 2

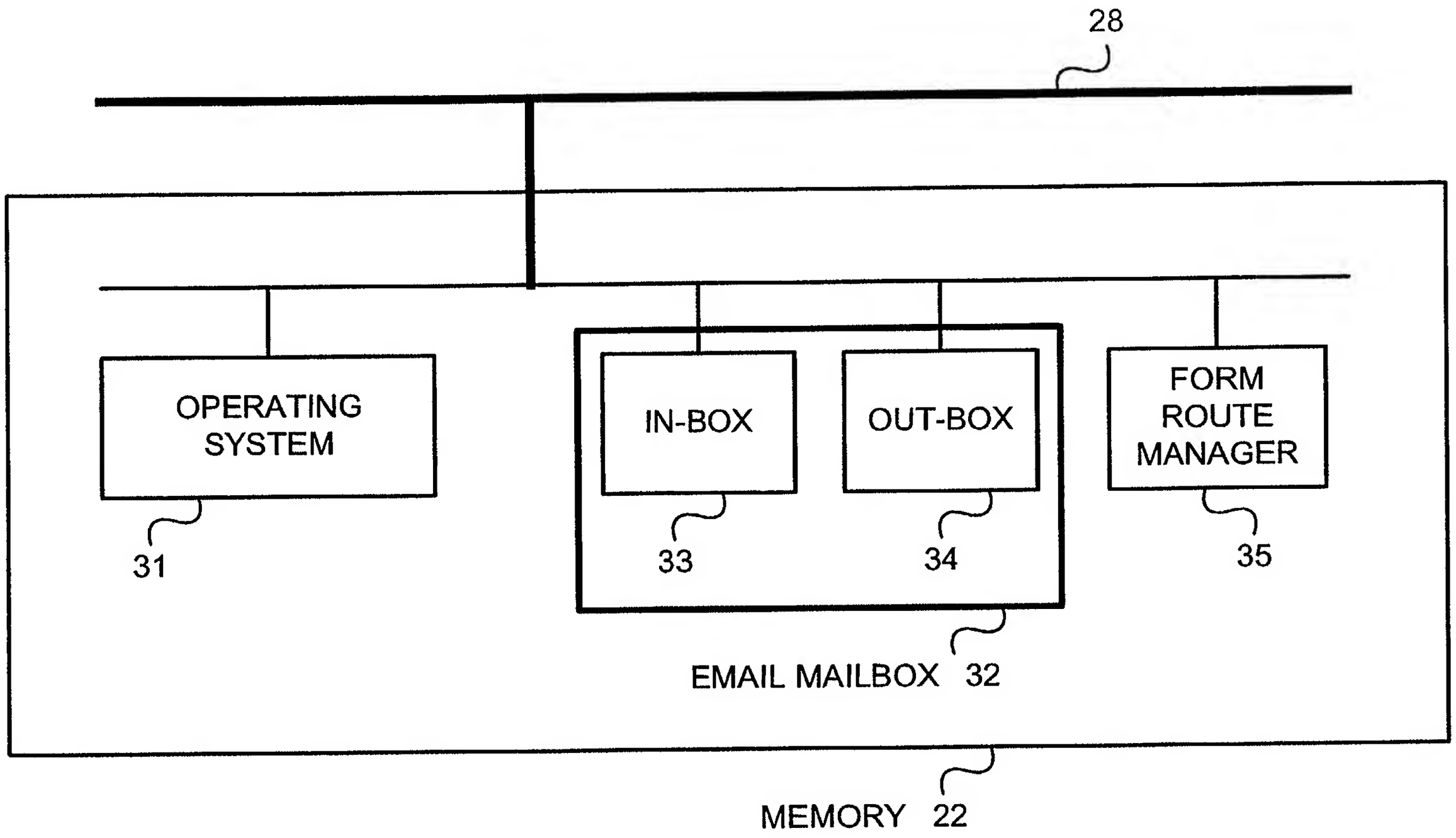

28
OPERATING SYSTEM
31
IN-BOX
33
OUT-BOX
34
FORM ROUTE MANAGER
35
EMAIL MAILBOX 32
MEMORY 22

FIGURE 3

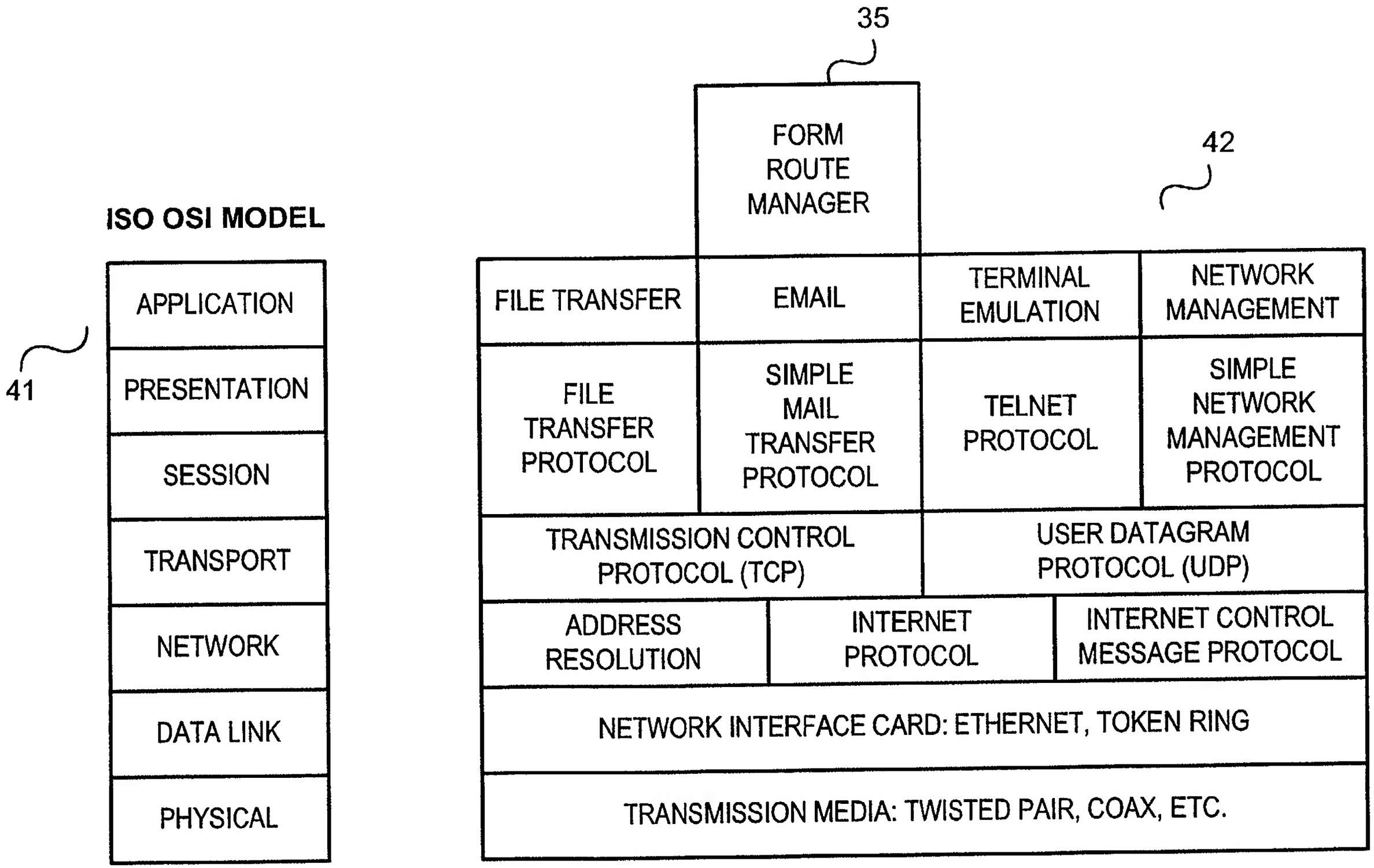

ISO OSI MODEL
41
APPLICATION
PRESENTATION
SESSION
TRANSPORT
NETWORK
DATA LINK
PHYSICAL
35
FORM ROUTE MANAGER
42
FILE TRANSFER
EMAIL
TERMINAL EMULATION
NETWORK MANAGEMENT
FILE TRANSFER PROTOCOL
SIMPLE MAIL TRANSFER PROTOCOL
TELNET PROTOCOL
SIMPLE NETWORK MANAGEMENT PROTOCOL
TRANSMISSION CONTROL PROTOCOL (TCP)
USER DATAGRAM PROTOCOL (UDP)
ADDRESS RESOLUTION
INTERNET PROTOCOL
INTERNET CONTROL MESSAGE PROTOCOL
NETWORK INTERFACE CARD: ETHERNET, TOKEN RING
TRANSMISSION MEDIA: TWISTED PAIR, COAX, ETC.

FIGURE 4

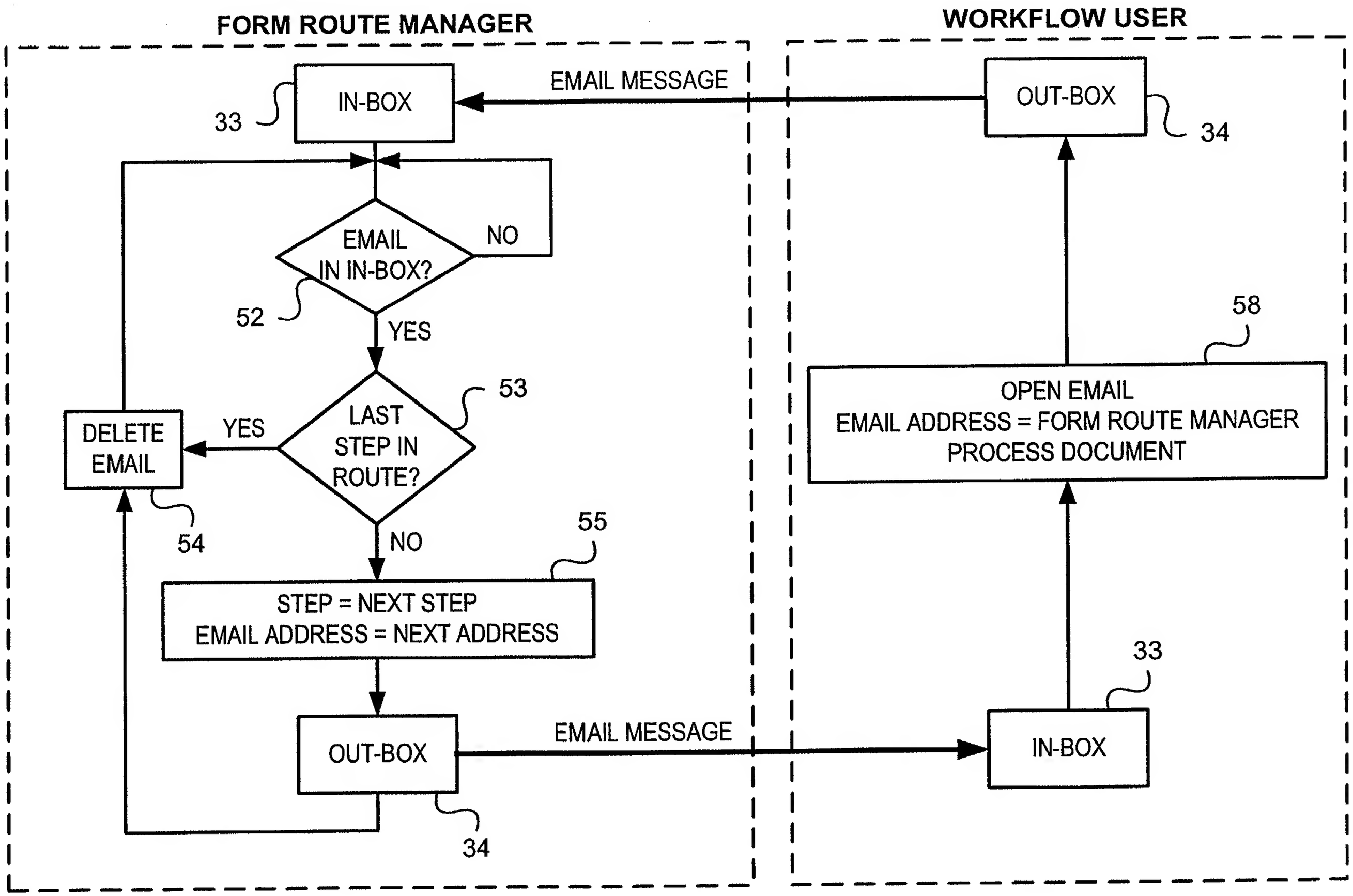

FORM ROUTE MANAGER
WORKFLOW USER
IN-BOX
33
EMAIL MESSAGE
OUT-BOX
34
EMAIL
IN IN-BOX?
NO
52
YES
58
OPEN EMAIL
EMAIL ADDRESS = FORM ROUTE MANAGER
PROCESS DOCUMENT
53
LAST
STEP IN
ROUTE?
YES
DELETE
EMAIL
54
NO
55
STEP = NEXT STEP
EMAIL ADDRESS = NEXT ADDRESS
33
OUT-BOX
EMAIL MESSAGE
IN-BOX
34

FIGURE 5

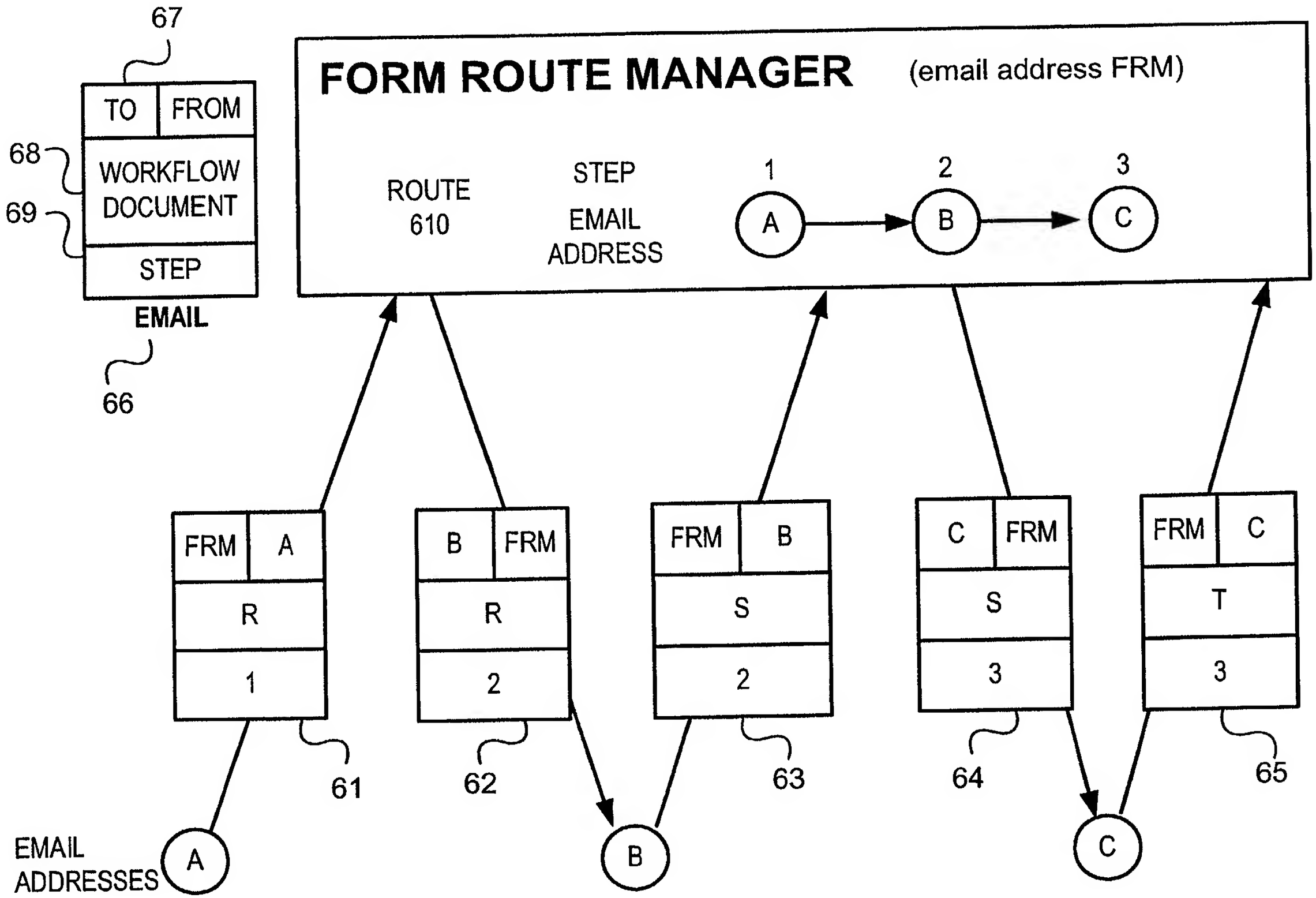
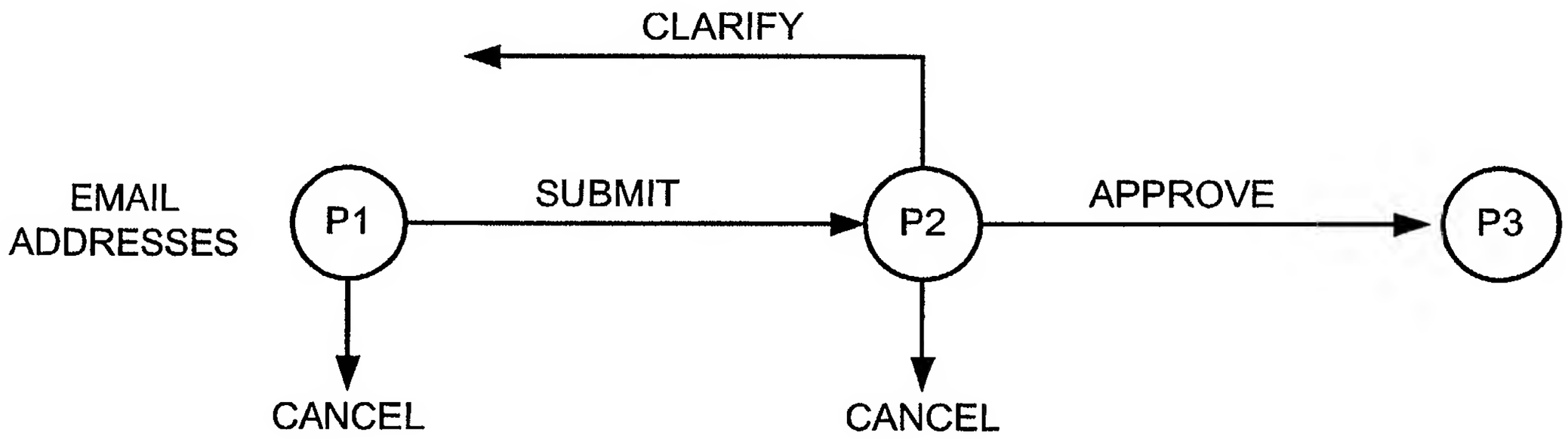

67
TO
FROM
68
WORKFLOW DOCUMENT
69
STEP
EMAIL
66
FORM ROUTE MANAGER
(email address FRM)
ROUTE 610
STEP
EMAIL ADDRESS
1
2
3
A
B
C
FRM
A
R
1
61
B
FRM
R
2
62
FRM
B
S
2
63
C
FRM
S
3
64
FRM
C
T
3
65
EMAIL ADDRESSES
A
B
C

FIGURE 6

Docket Shizzoo



P1 = TRAVELER
P2 = MANAGER
P3 = FINANCE

FIGURE 7

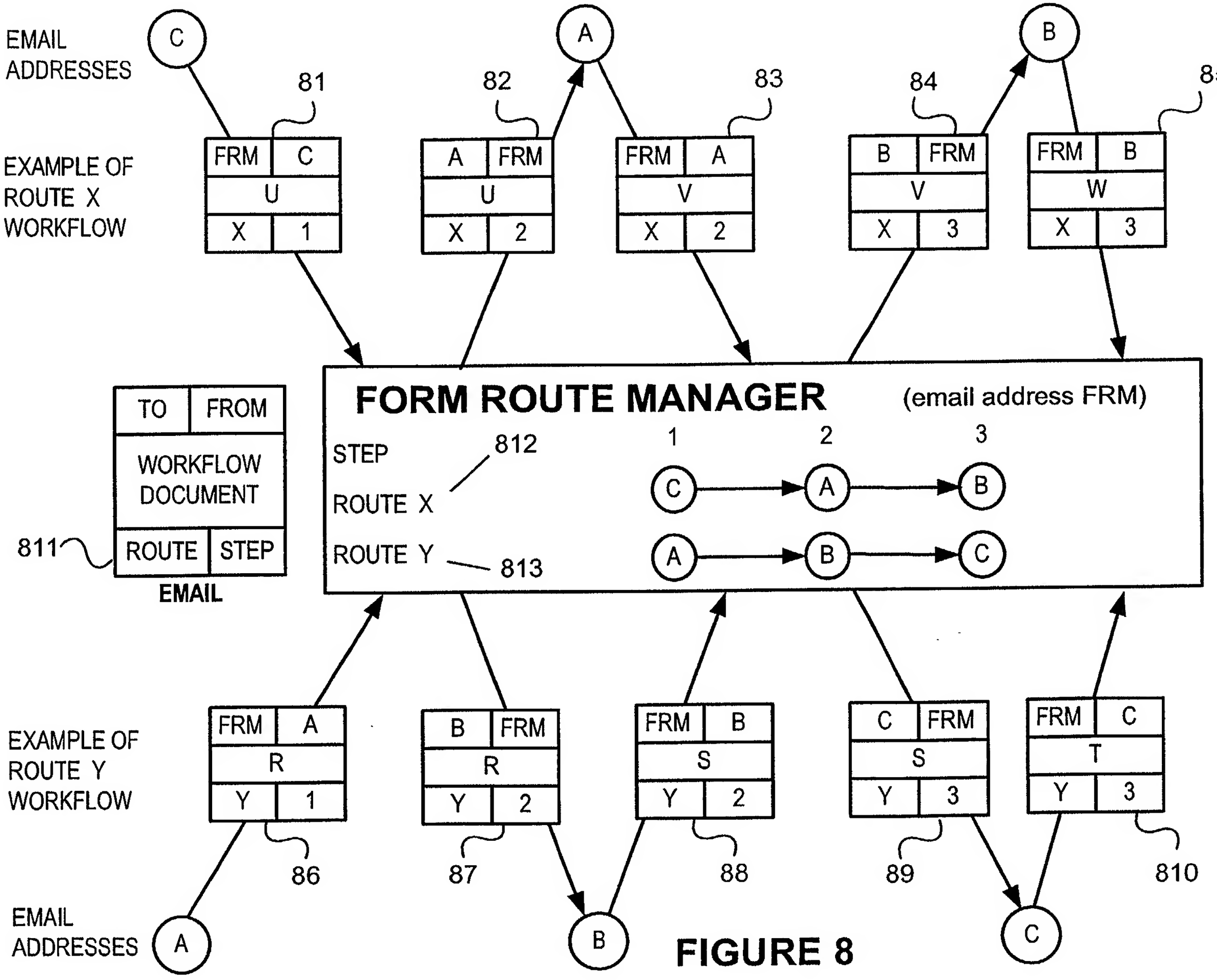

EMAIL ADDRESSES
C
A
B
81
82
83
84
85
EXAMPLE OF ROUTE X WORKFLOW
FRM C
U
X 1
A FRM
U
X 2
FRM A
V
X 2
B FRM
V
X 3
FRM B
W
X 3
FORM ROUTE MANAGER
(email address FRM)
TO FROM
WORKFLOW DOCUMENT
ROUTE STEP
EMAIL
811
812
STEP
ROUTE X
ROUTE Y
813
1
2
3
C → A → B
A → B → C
EXAMPLE OF ROUTE Y WORKFLOW
FRM A
R
Y 1
B FRM
R
Y 2
FRM B
S
Y 2
C FRM
S
Y 3
FRM C
T
Y 3
86
87
88
89
810
EMAIL ADDRESSES
A
B
C

FIGURE 8

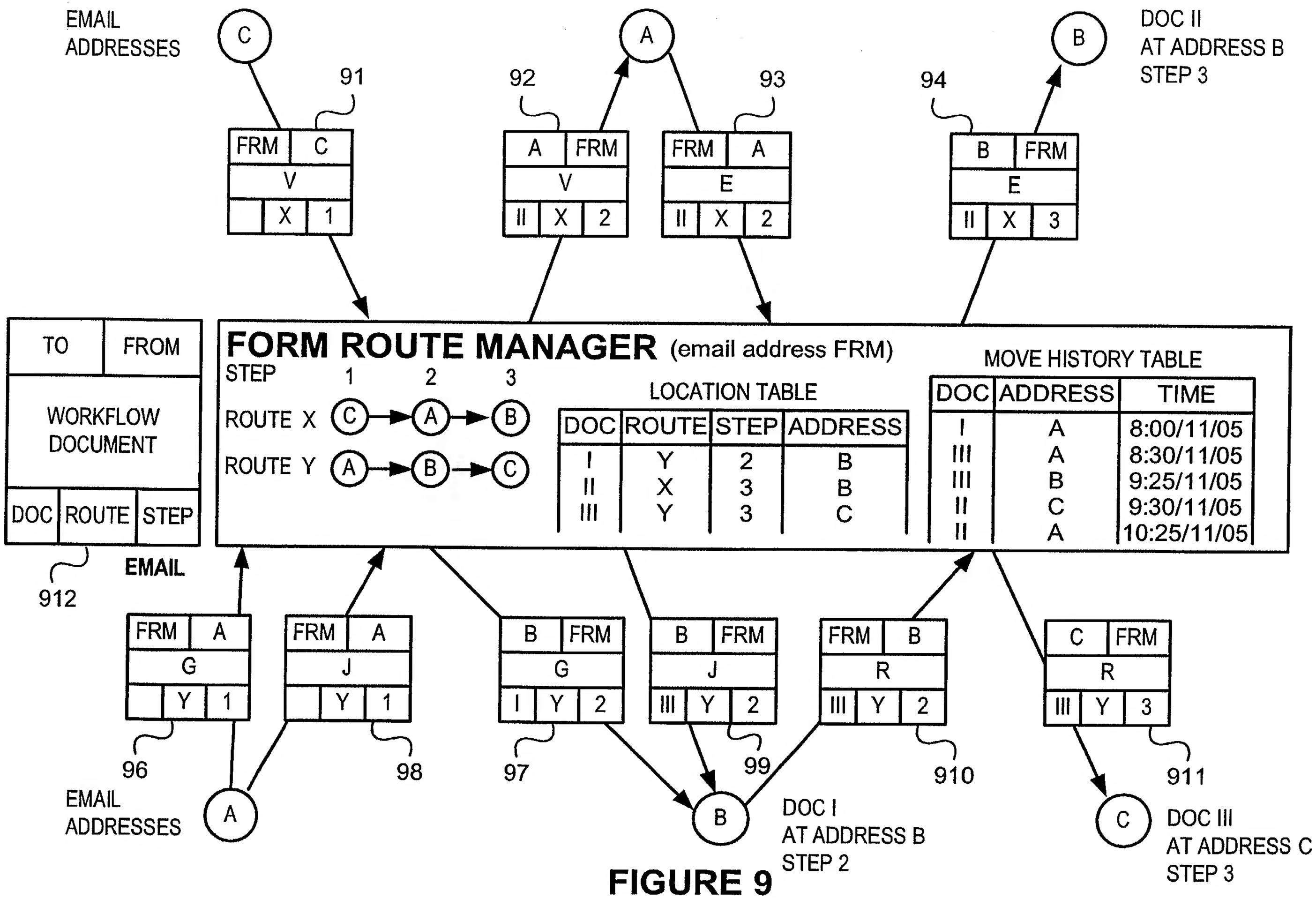

EMAIL ADDRESSES
C
91
FRM C
V
X 1
A
92
A FRM
V
II X 2
93
FRM A
E
II X 2
B
94
B FRM
E
II X 3
DOC II
AT ADDRESS B
STEP 3
TO FROM
WORKFLOW DOCUMENT
DOC ROUTE STEP
912
EMAIL
FORM ROUTE MANAGER (email address FRM)
STEP 1 2 3
ROUTE X C A B
ROUTE Y A B C
LOCATION TABLE
DOC ROUTE STEP ADDRESS
I Y 2 B
II X 3 B
III Y 3 C
MOVE HISTORY TABLE
DOC ADDRESS TIME
I A 8:00/11/05
III A 8:30/11/05
III B 9:25/11/05
II C 9:30/11/05
II A 10:25/11/05
FRM A
G
Y 1
96
EMAIL ADDRESSES
A
FRM A
J
Y 1
98
B FRM
G
I Y 2
97
B FRM
J
III Y 2
99
FRM B
R
III Y 2
910
C FRM
R
III Y 3
911
B
DOC I
AT ADDRESS B
STEP 2
C
DOC III
AT ADDRESS C
STEP 3

FIGURE 9

Total Shscedt

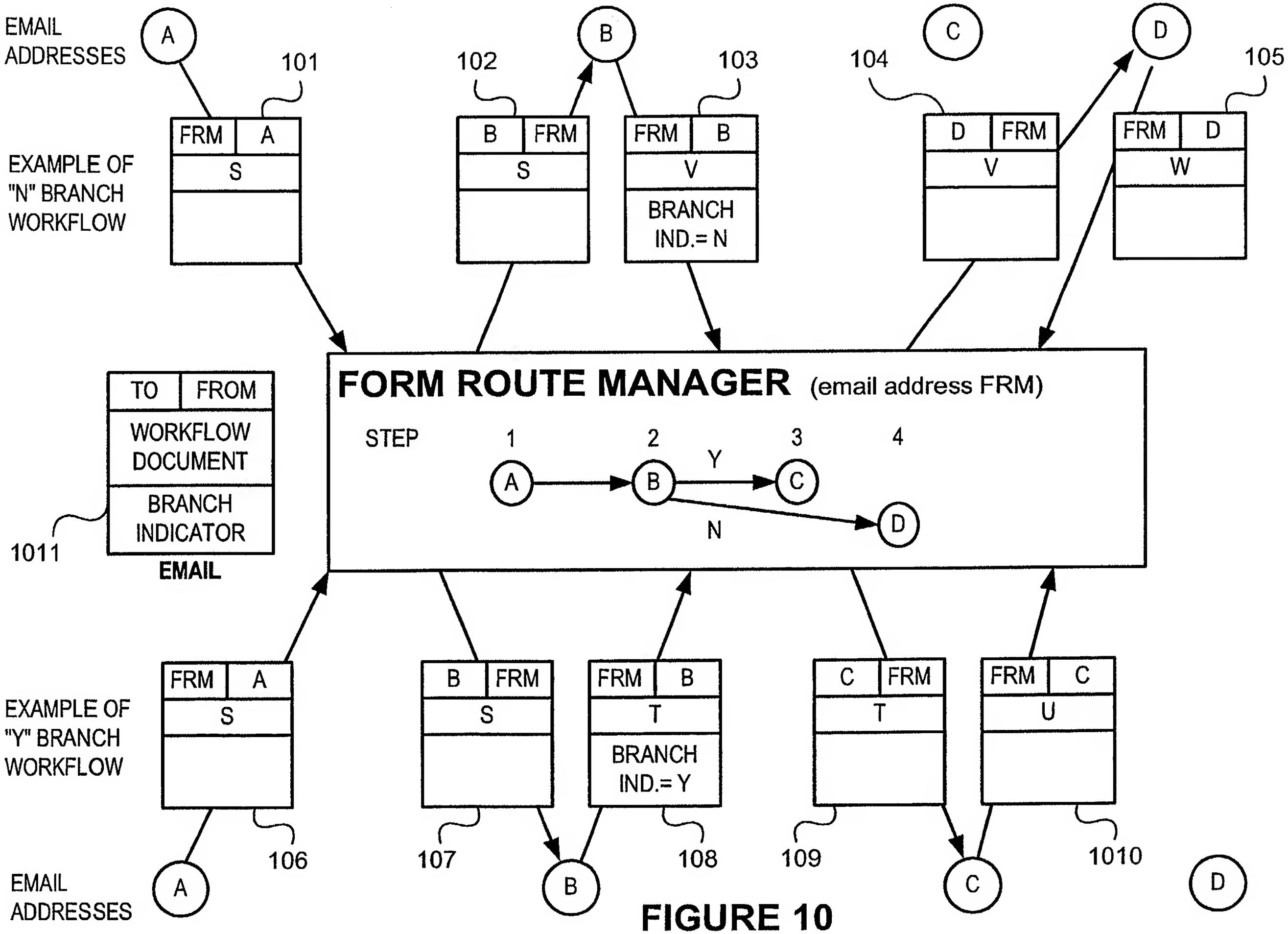


FIGURE 10

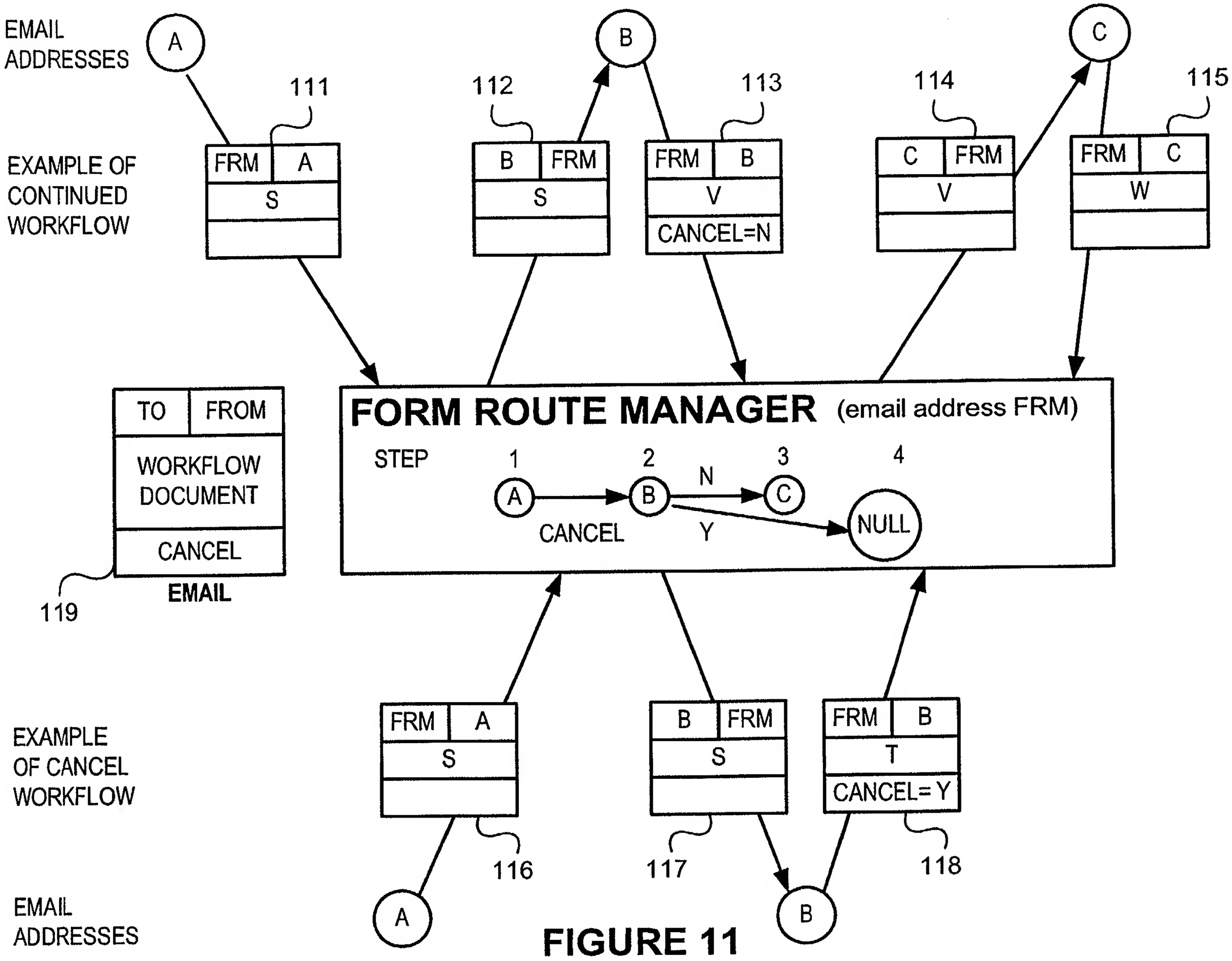

EMAIL ADDRESSES
A
B
C
111
112
113
114
115
EXAMPLE OF CONTINUED WORKFLOW
FRM A
S
B FRM
S
FRM B
V
CANCEL=N
C FRM
V
FRM C
W
TO FROM
WORKFLOW DOCUMENT
CANCEL
EMAIL
119
FORM ROUTE MANAGER (email address FRM)
STEP
1
2
3
4
A
B
C
N
Y
CANCEL
NULL
EXAMPLE OF CANCEL WORKFLOW
FRM A
S
B FRM
S
FRM B
T
CANCEL= Y
116
117
118
EMAIL ADDRESSES
A
B

FIGURE 11

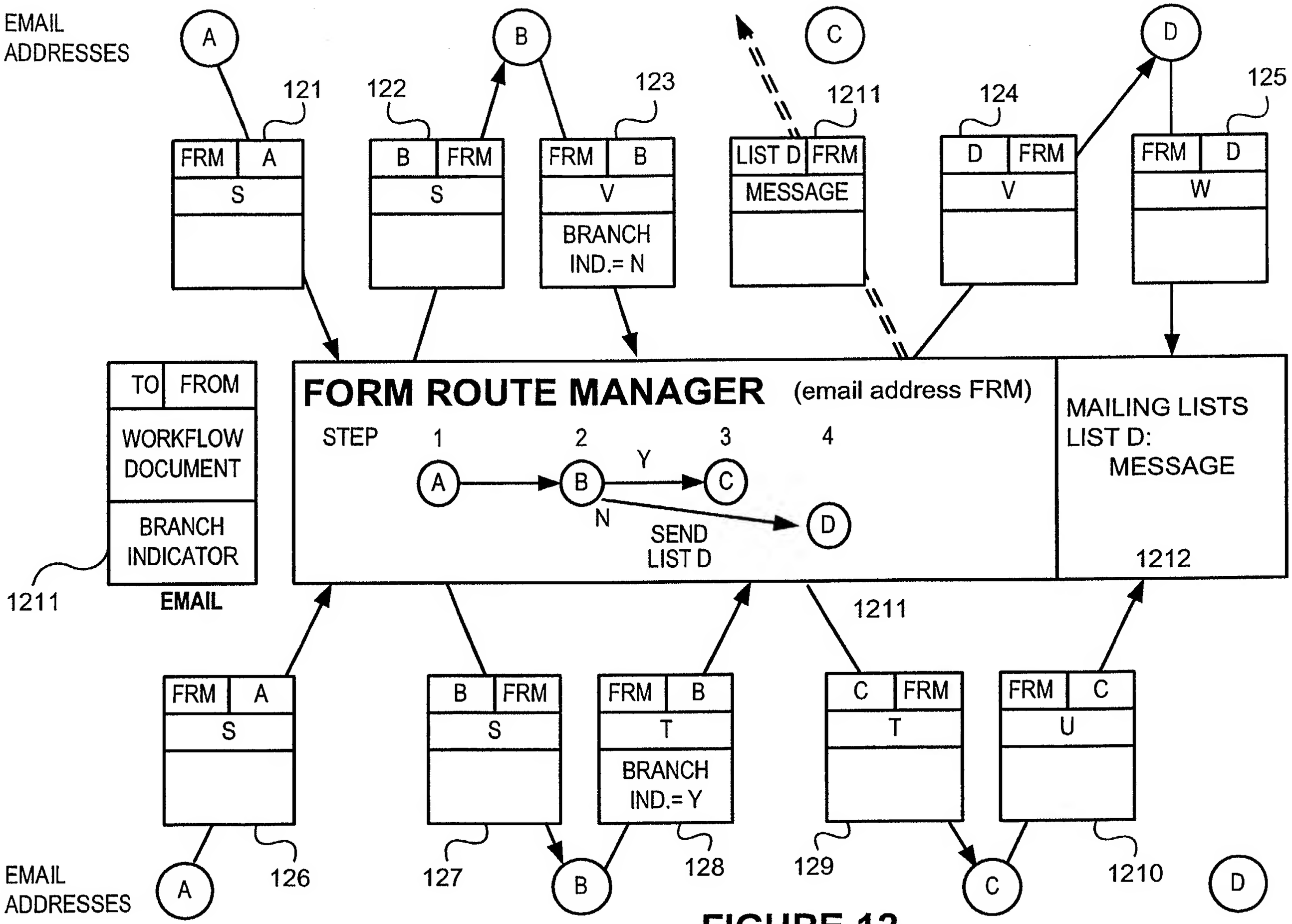

EMAIL ADDRESSES
A
B
C
D
121
122
123
1211
124
125
FRM A
S
B FRM
S
FRM B
V
BRANCH IND.= N
LIST D FRM
MESSAGE
D FRM
V
FRM D
W
TO FROM
WORKFLOW DOCUMENT
BRANCH INDICATOR
EMAIL
1211
FORM ROUTE MANAGER (email address FRM)
STEP 1 2 3 4
Y
N
SEND LIST D
MAILING LISTS
LIST D:
MESSAGE
1212
1211
FRM A
S
B FRM
S
FRM B
T
BRANCH IND.= Y
C FRM
T
FRM C
U
EMAIL ADDRESSES
126
127
128
129
1210

FIGURE 12

FOT22F.SHS2E001

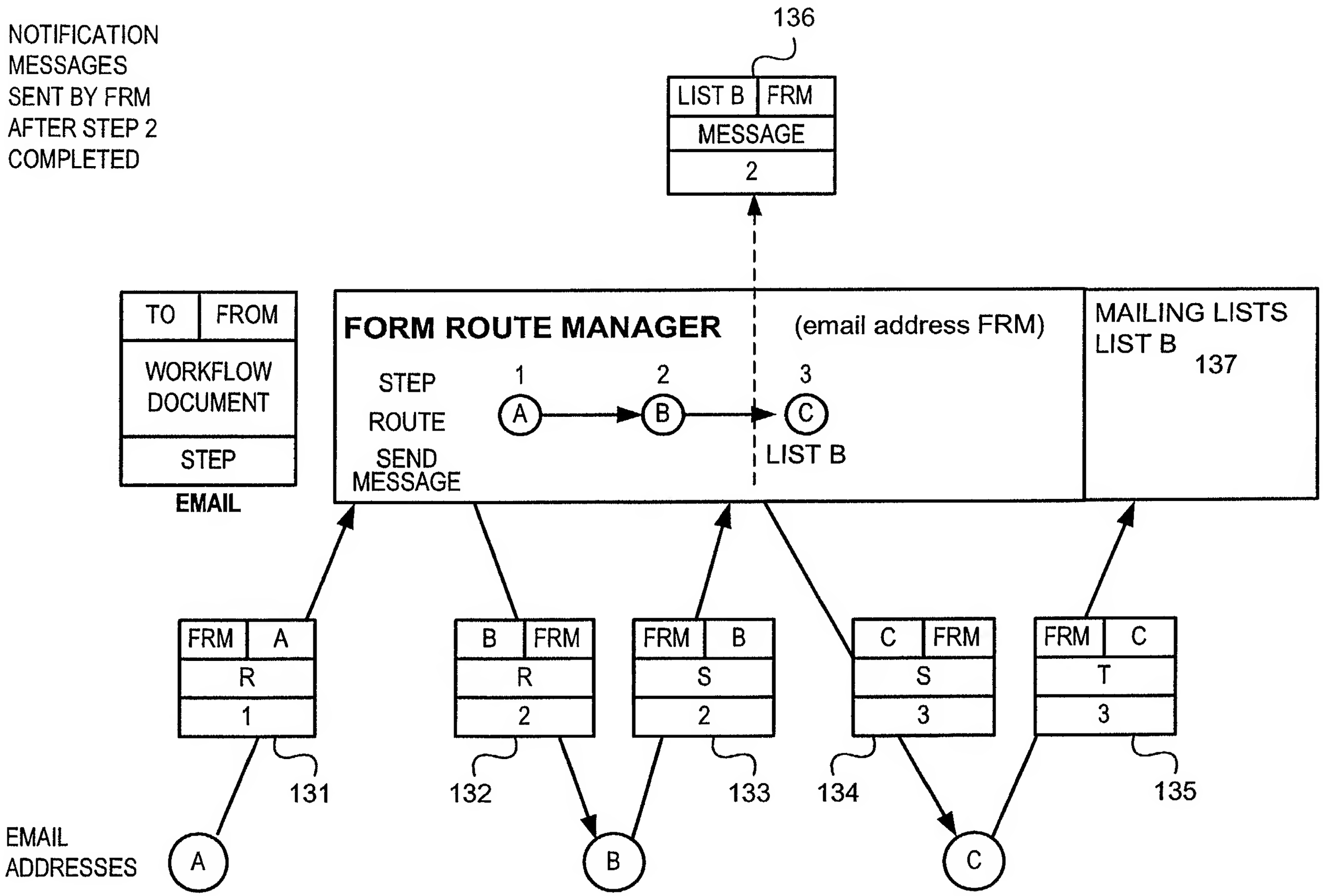


FIGURE 13

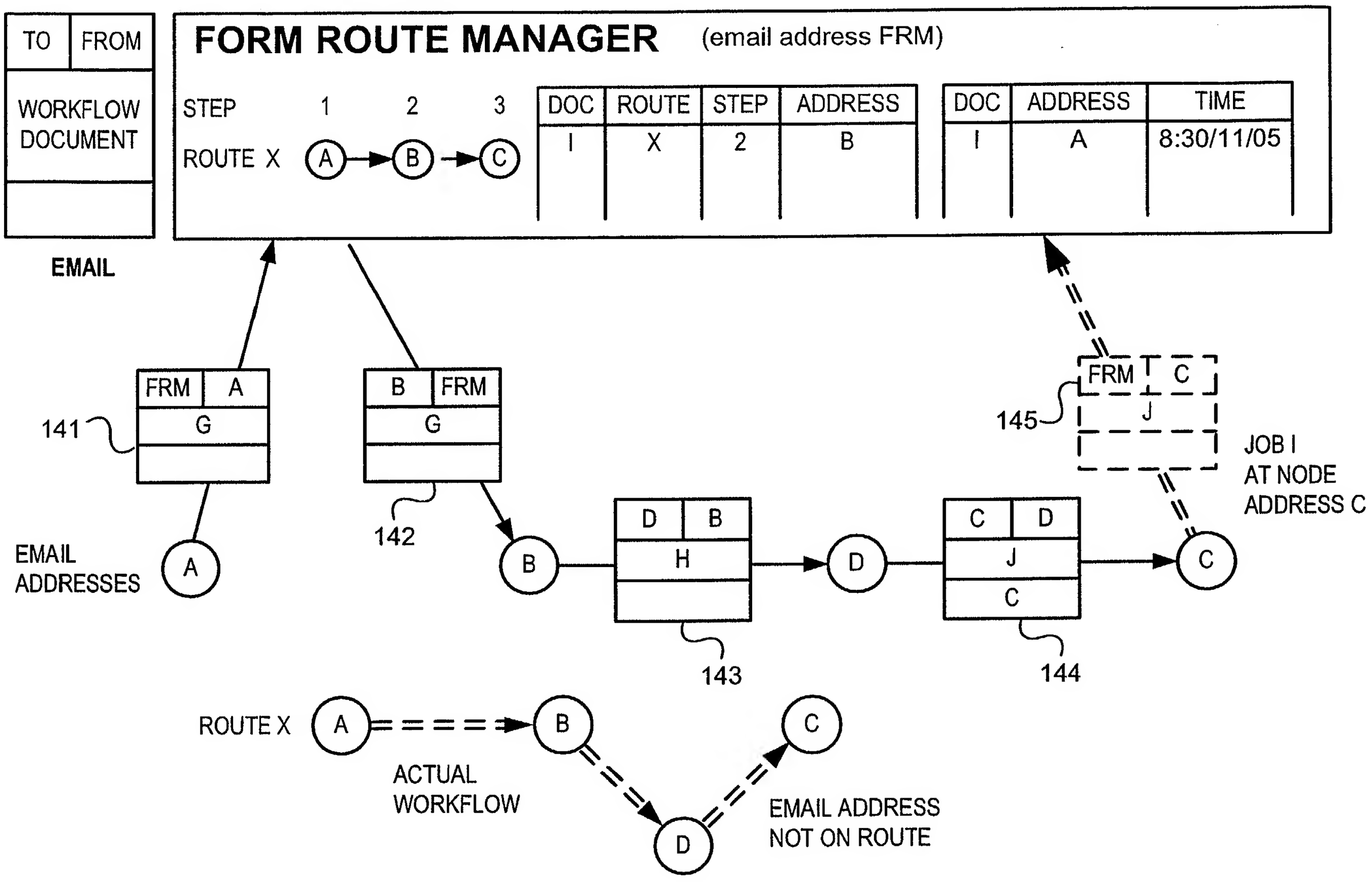
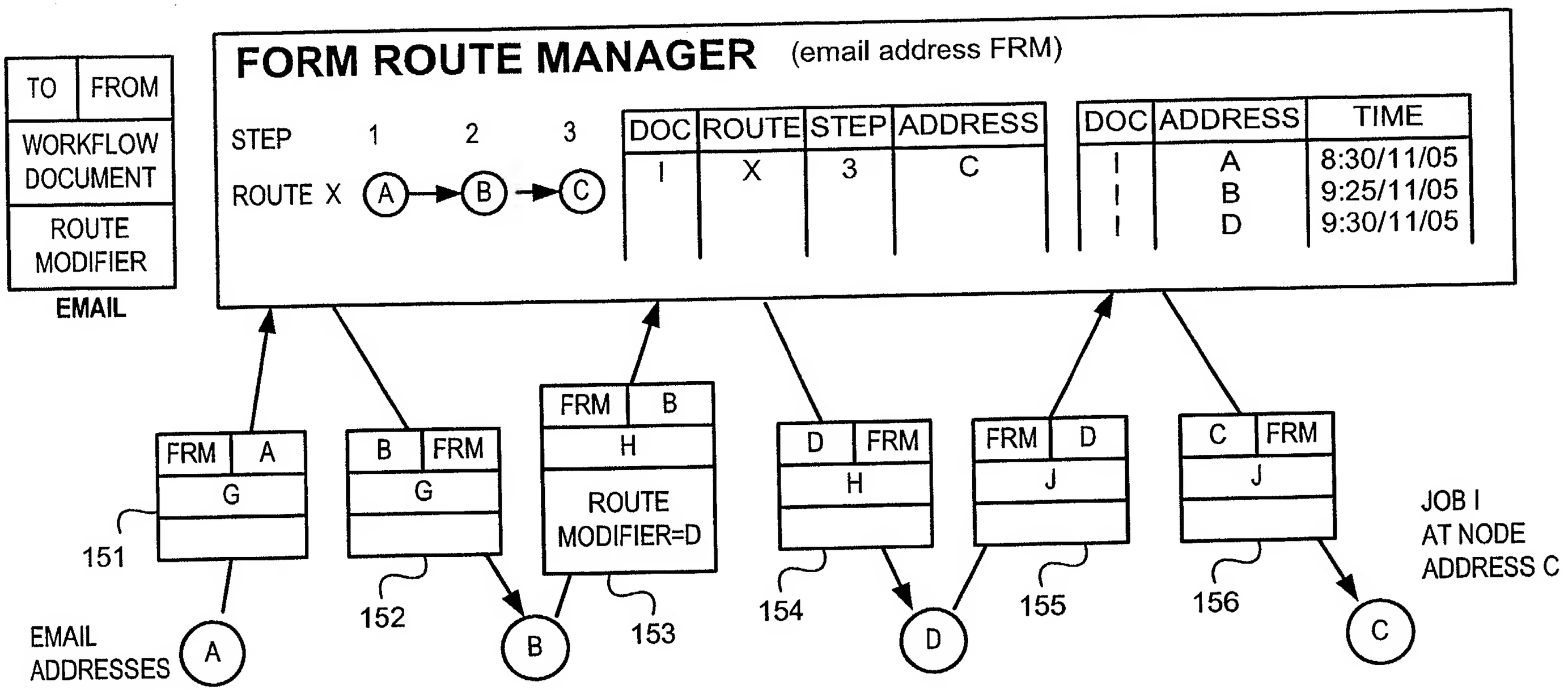

TO
FROM
WORKFLOW DOCUMENT
EMAIL
FORM ROUTE MANAGER
(email address FRM)
STEP 1 2 3
ROUTE X A B C
DOC ROUTE STEP ADDRESS
I X 2 B
DOC ADDRESS TIME
I A 8:30/11/05
FRM A
G
141
EMAIL ADDRESSES
A
B FRM
G
142
B
D B
H
143
D
C D
J
C
144
FRM C
J
145
JOB I AT NODE ADDRESS C
C
ROUTE X
A
B
C
D
ACTUAL WORKFLOW
EMAIL ADDRESS NOT ON ROUTE

FIGURE 14


TO
FROM
WORKFLOW DOCUMENT
ROUTE MODIFIER
EMAIL
FORM ROUTE MANAGER
(email address FRM)
STEP 1 2 3
ROUTE X A B C
DOC ROUTE STEP ADDRESS
I X 3 C
DOC ADDRESS TIME
I A 8:30/11/05
I B 9:25/11/05
I D 9:30/11/05
FRM A
G
151
EMAIL ADDRESSES
A
B FRM
G
152
B
FRM B
H
ROUTE MODIFIER=D
153
D FRM
H
154
FRM D
J
155
D
C FRM
J
156
C
JOB I
AT NODE
ADDRESS C

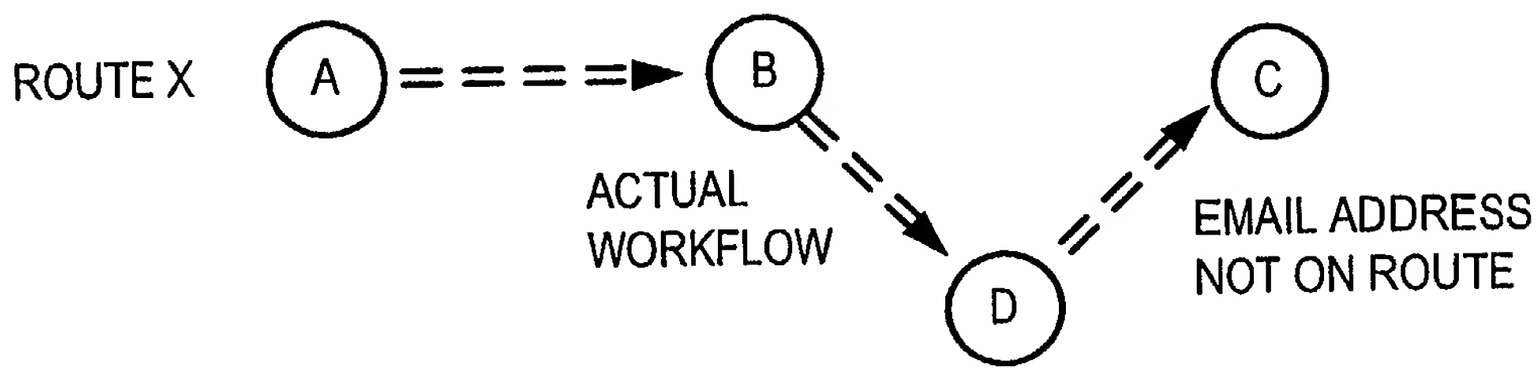

ROUTE X
A
B
C
D
ACTUAL WORKFLOW
EMAIL ADDRESS NOT ON ROUTE

FIGURE 15

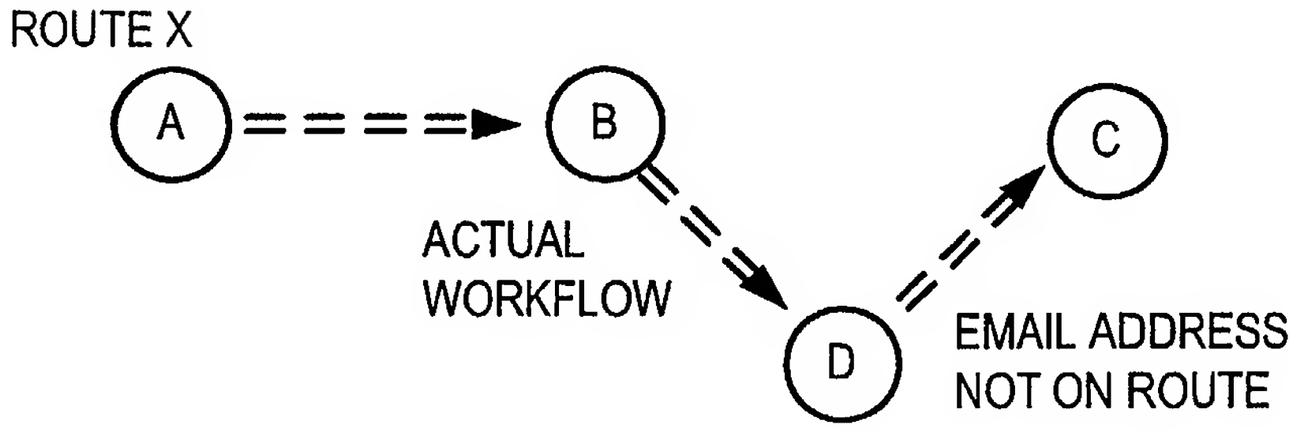


TABLE IN FORMS ROUTE MANAGER

MOVE HISTORY

DOC	E-MAIL ADDRESS	TIME
I	A	9:30/05/11
I	B	10:00/05/11
I	D	11:00/05/11
I	C	11:45/05/11

NEW ROUTE BASED ON MOVE HISTORY FROM ROUTE X

FIGURE 16

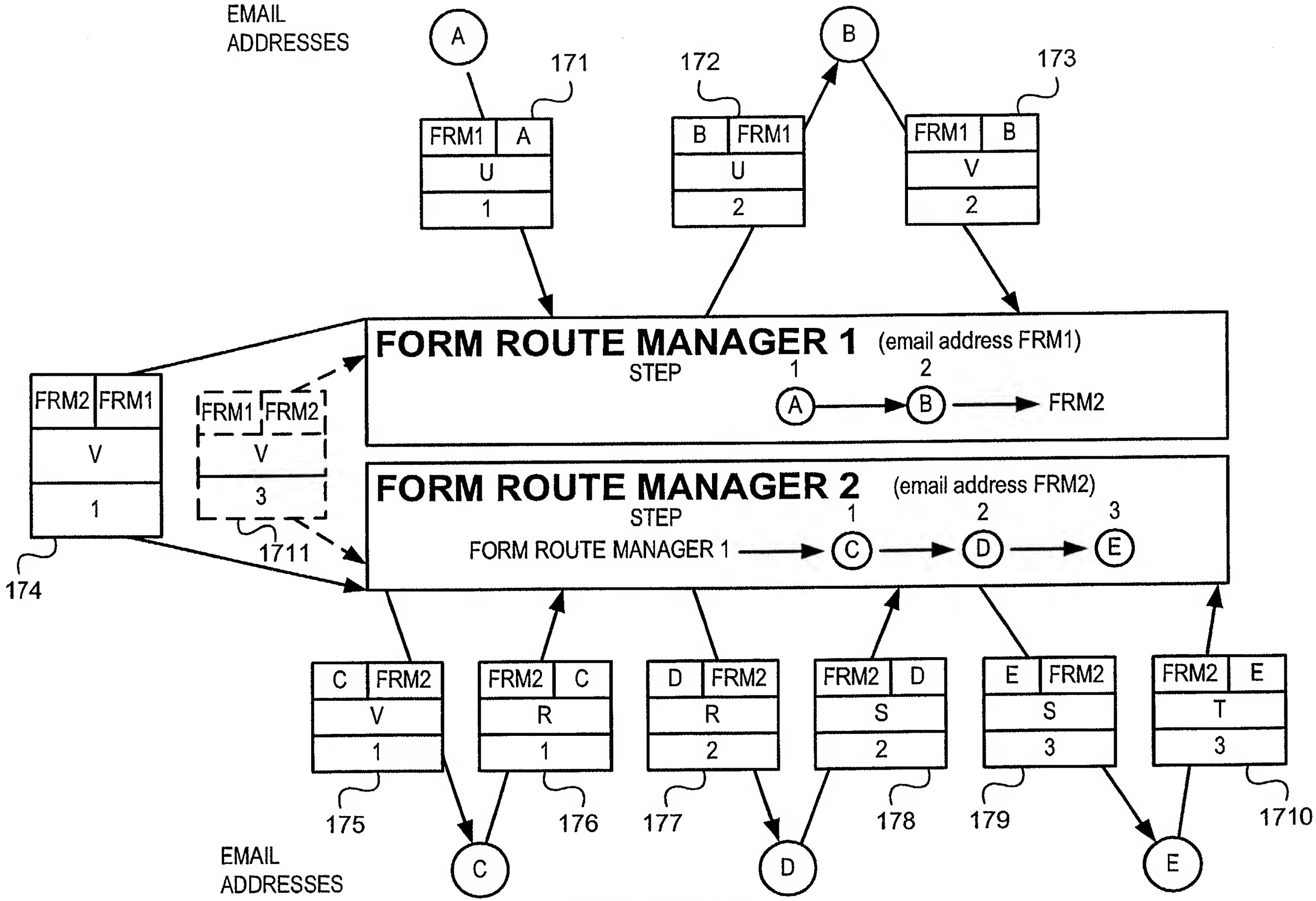

EMAIL ADDRESSES
A
B
171
172
173
FRM1 A
U
1
B FRM1
U
2
FRM1 B
V
2
FORM ROUTE MANAGER 1 (email address FRM1)
STEP
1
2
A
B
FRM2
FRM2 FRM1
V
1
174
FRM1 FRM2
V
3
1711
FORM ROUTE MANAGER 2 (email address FRM2)
STEP
1
2
3
FORM ROUTE MANAGER 1
C
D
E
C FRM2
V
1
175
FRM2 C
R
1
176
D FRM2
R
2
177
FRM2 D
S
2
178
E FRM2
S
3
179
FRM2 E
T
3
1710
EMAIL ADDRESSES
C
D
E

FIGURE 17

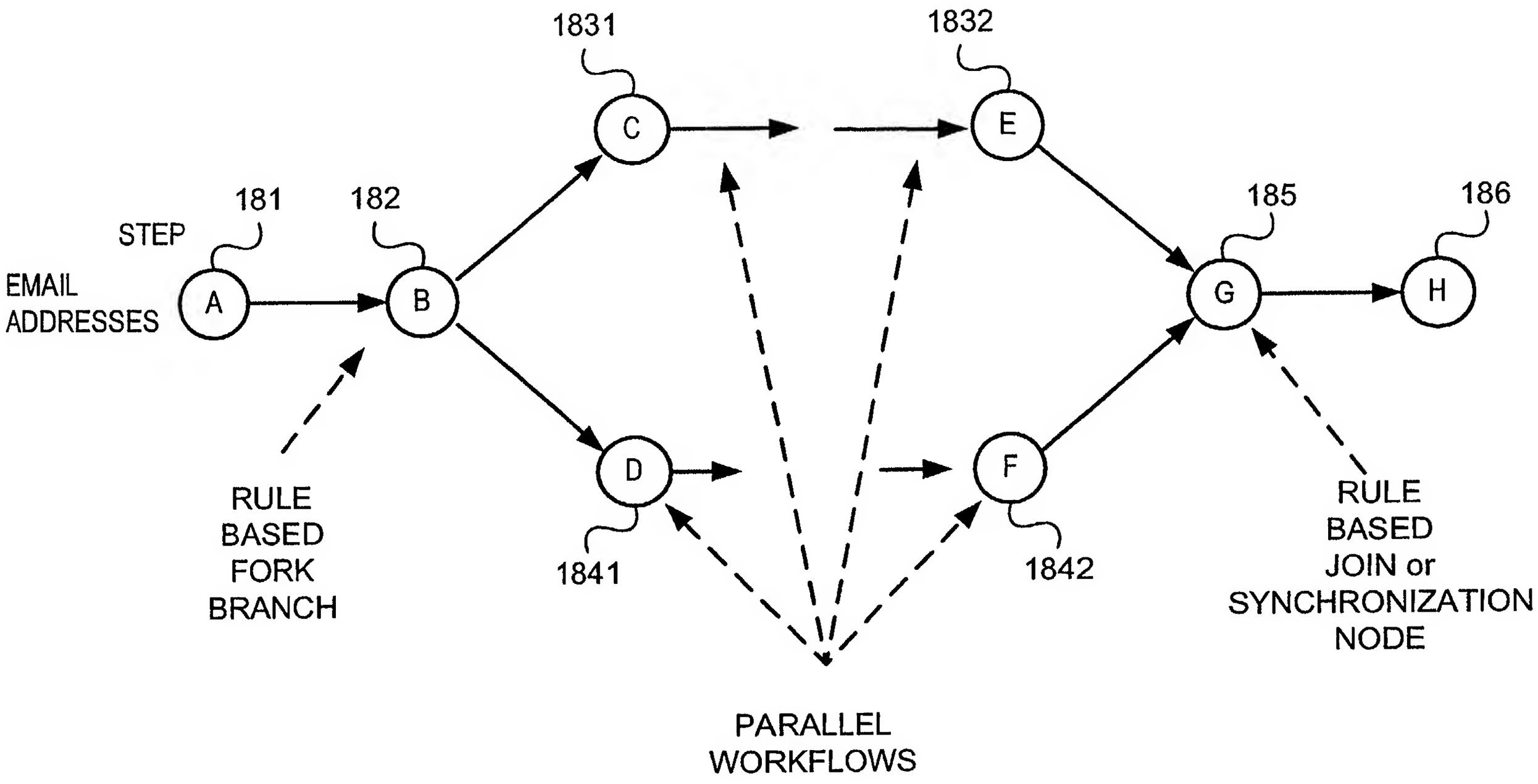

1831
1832
C
E
181
182
185
186
STEP
EMAIL
ADDRESSES
A
B
G
H
RULE
BASED
FORK
BRANCH
D
F
1841
1842
RULE
BASED
JOIN or
SYNCHRONIZATION
NODE
PARALLEL
WORKFLOWS

FIGURE 18

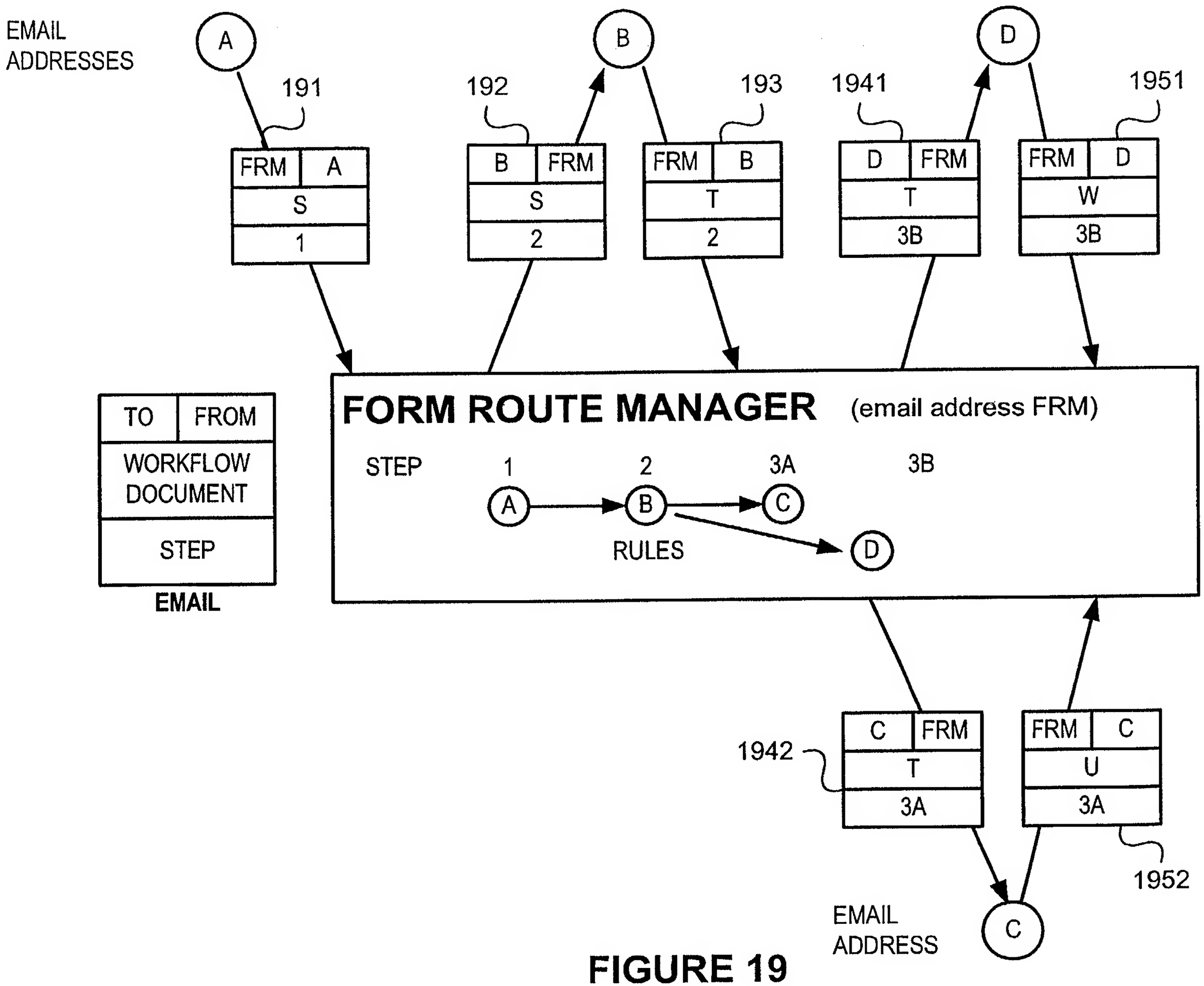

EMAIL ADDRESSES
A
B
D
191
192
193
1941
1951
FRM A
S
1
B FRM
S
2
FRM B
T
2
D FRM
T
3B
FRM D
W
3B
FORM ROUTE MANAGER
(email address FRM)
STEP
1
2
3A
3B
A
B
C
D
RULES
TO FROM
WORKFLOW DOCUMENT
STEP
EMAIL
1942
C FRM
T
3A
FRM C
U
3A
1952
EMAIL ADDRESS
C

FIGURE 19

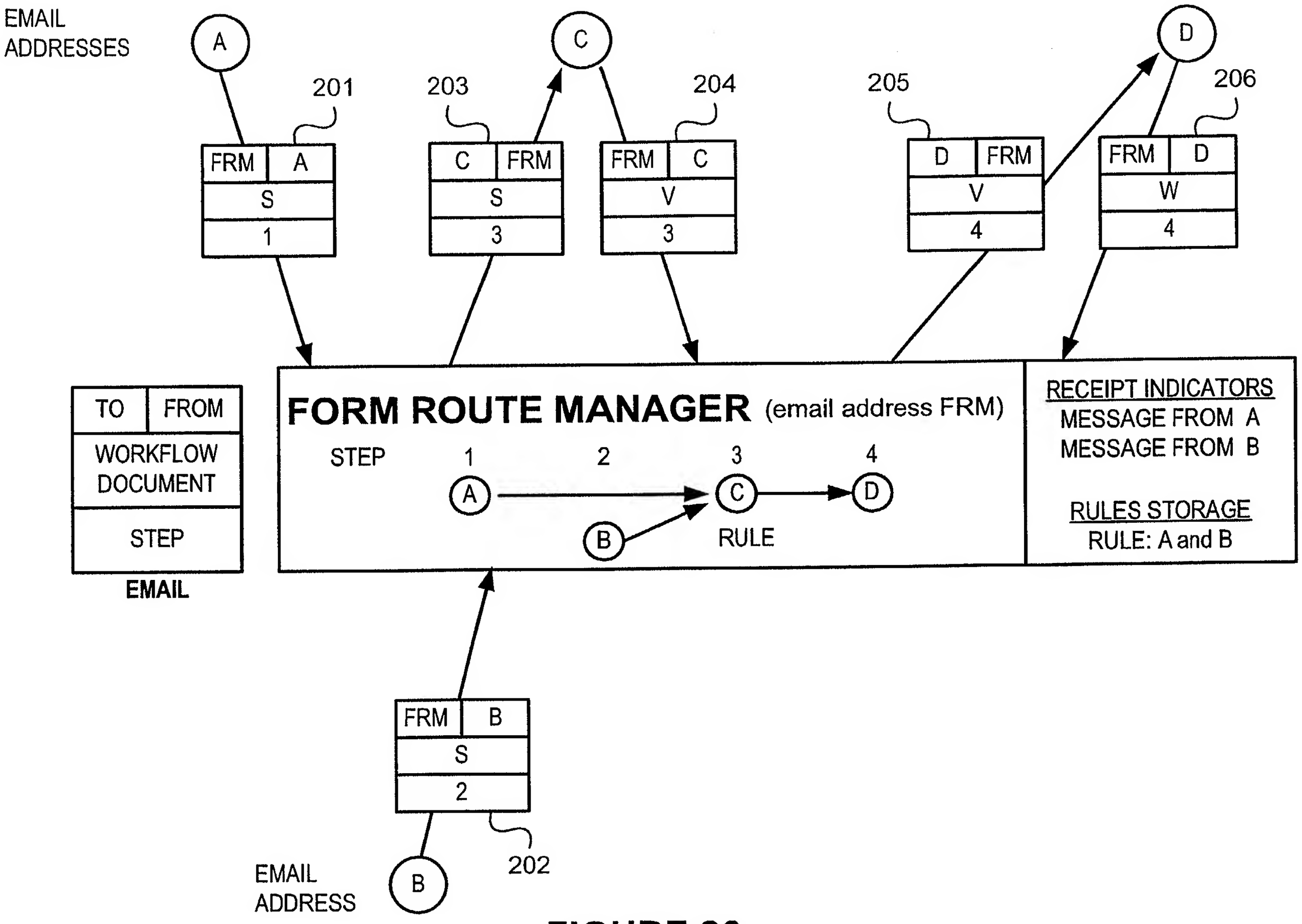

EMAIL ADDRESSES
A
201
FRM
A
S
1
C
203
C
FRM
S
3
C
204
FRM
C
V
3
D
205
D
FRM
V
4
D
206
FRM
D
W
4
TO
FROM
WORKFLOW DOCUMENT
STEP
EMAIL
FORM ROUTE MANAGER (email address FRM)
STEP
1
2
3
4
A
C
D
B
RULE
RECEIPT INDICATORS
MESSAGE FROM A
MESSAGE FROM B
RULES STORAGE
RULE: A and B
FRM
B
S
2
202
EMAIL ADDRESS
B

FIGURE 20

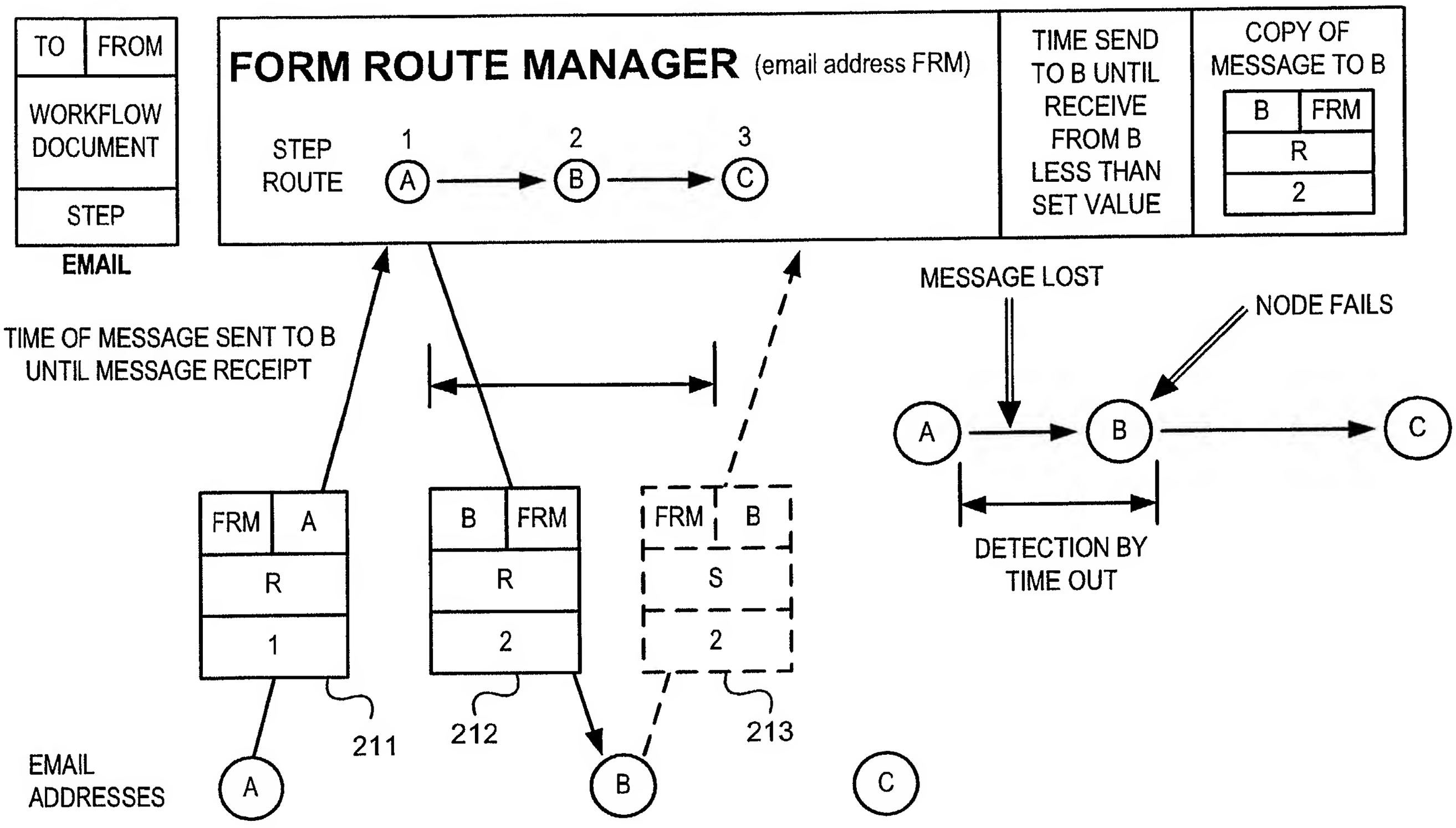

TO
FROM
WORKFLOW DOCUMENT
STEP
EMAIL
FORM ROUTE MANAGER (email address FRM)
STEP
ROUTE
1
2
3
A
B
C
TIME SEND TO B UNTIL RECEIVE FROM B LESS THAN SET VALUE
COPY OF MESSAGE TO B
B
FRM
R
2
TIME OF MESSAGE SENT TO B UNTIL MESSAGE RECEIPT
MESSAGE LOST
NODE FAILS
DETECTION BY TIME OUT
FRM
A
R
1
211
B
FRM
R
2
212
FRM
B
S
2
213
EMAIL ADDRESSES
A
B
C

FIGURE 21

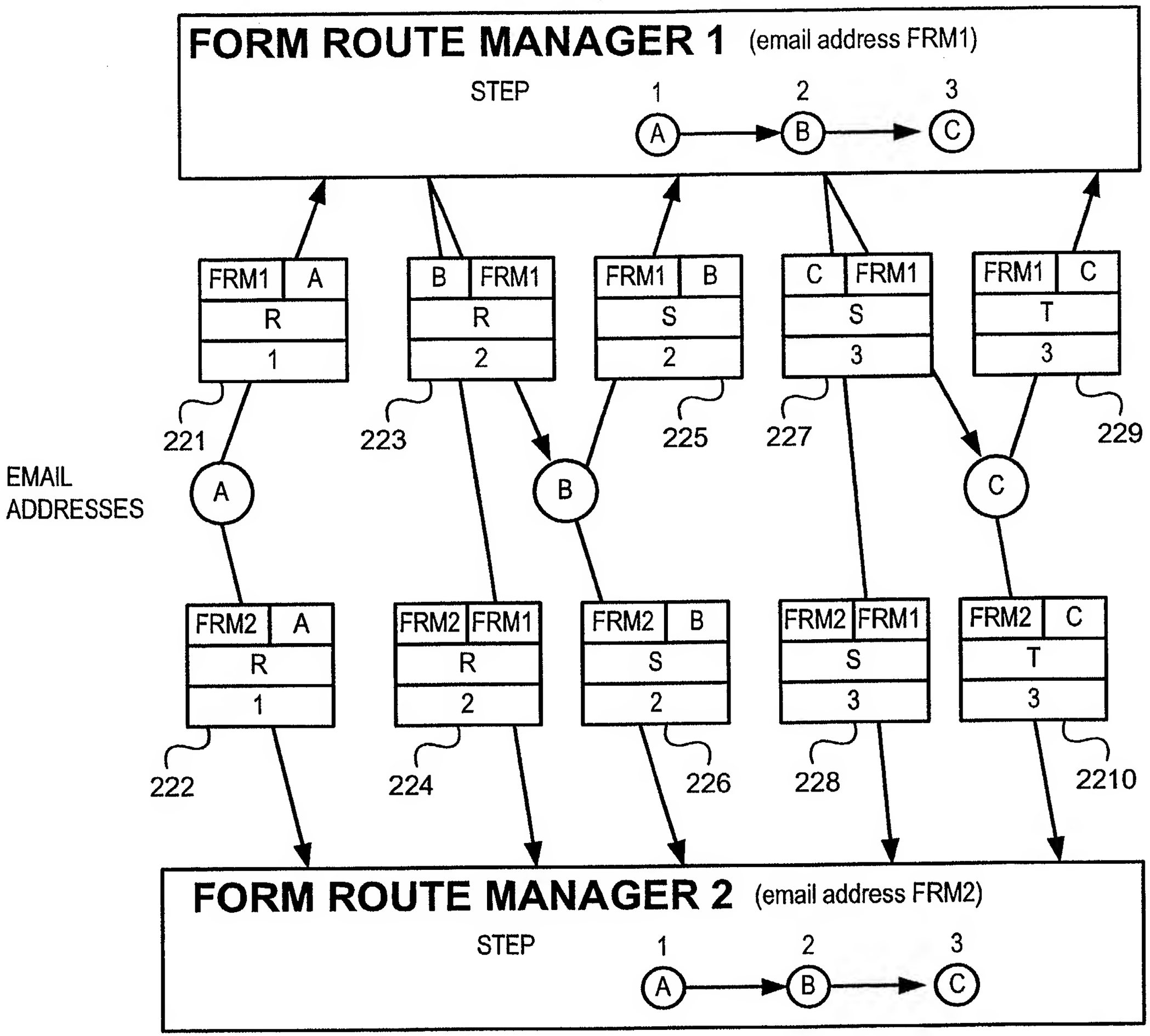

FORM ROUTE MANAGER 1 (email address FRM1)
STEP
1
2
3
A
B
C
FRM1 A
R
1
B FRM1
R
2
FRM1 B
S
2
C FRM1
S
3
FRM1 C
T
3
221
223
225
227
229
EMAIL ADDRESSES
A
B
C
FRM2 A
R
1
FRM2 FRM1
R
2
FRM2 B
S
2
FRM2 FRM1
S
3
FRM2 C
T
3
222
224
226
228
2210
FORM ROUTE MANAGER 2 (email address FRM2)
STEP
1
2
3
A
B
C

FIGURE 22

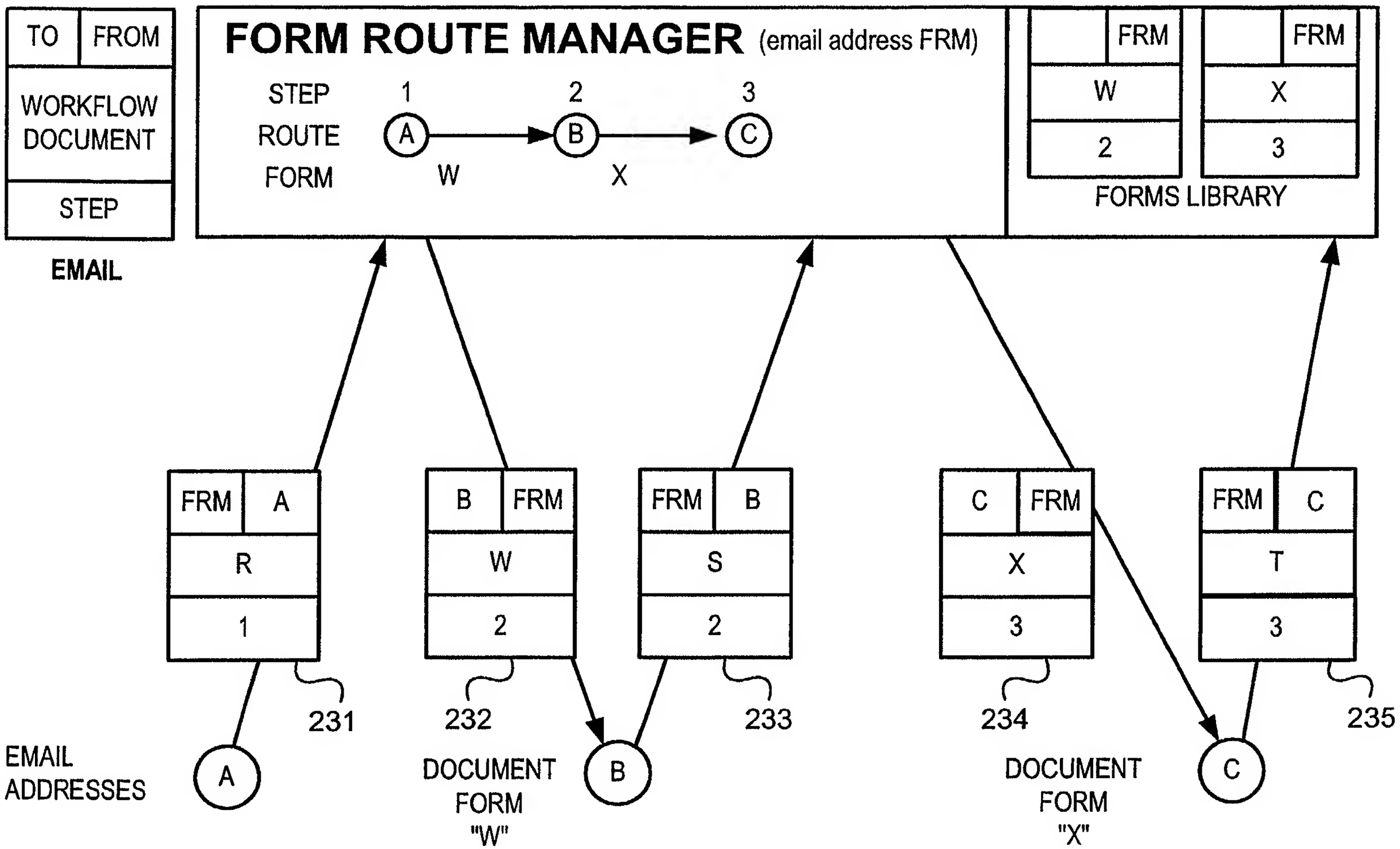

TO
FROM
WORKFLOW DOCUMENT
STEP
EMAIL
FORM ROUTE MANAGER (email address FRM)
STEP
ROUTE
FORM
1
2
3
A
B
C
W
X
FRM
W
2
FRM
X
3
FORMS LIBRARY
FRM
A
R
1
231
B
FRM
W
2
232
FRM
B
S
2
233
C
FRM
X
3
234
FRM
C
T
3
235
EMAIL ADDRESSES
A
DOCUMENT FORM "W"
B
DOCUMENT FORM "X"
C

FIGURE 23

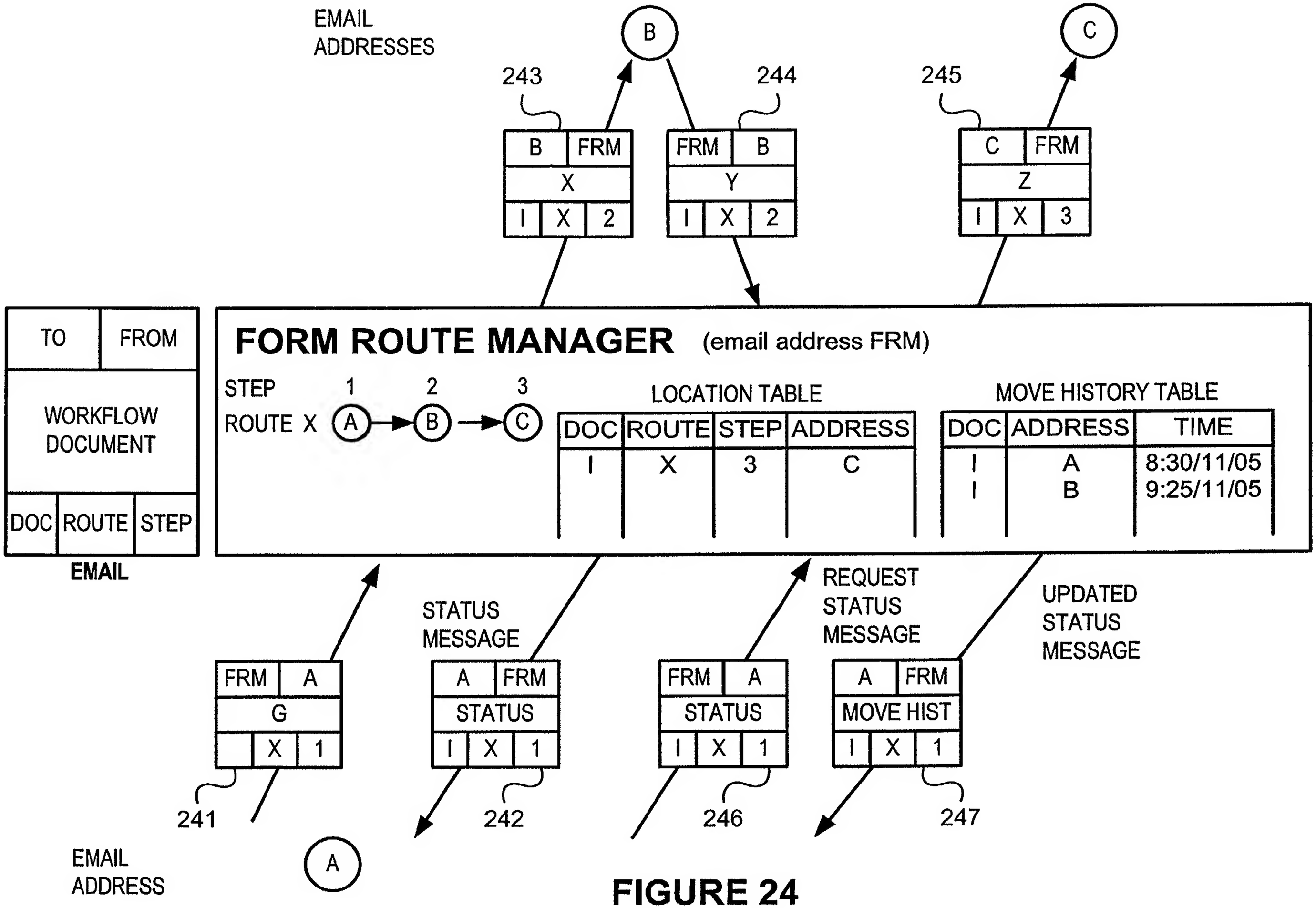

EMAIL ADDRESSES
B
C
243
244
245
B FRM
X
I X 2
FRM B
Y
I X 2
C FRM
Z
I X 3
FORM ROUTE MANAGER (email address FRM)
STEP 1 2 3
ROUTE X A B C
LOCATION TABLE
DOC ROUTE STEP ADDRESS
I X 3 C
MOVE HISTORY TABLE
DOC ADDRESS TIME
I A 8:30/11/05
I B 9:25/11/05
TO FROM
WORKFLOW DOCUMENT
DOC ROUTE STEP
EMAIL
STATUS MESSAGE
REQUEST STATUS MESSAGE
UPDATED STATUS MESSAGE
FRM A
G
X 1
A FRM
STATUS
I X 1
FRM A
STATUS
I X 1
A FRM
MOVE HIST
I X 1
241
242
246
247
EMAIL ADDRESS
A

FIGURE 24

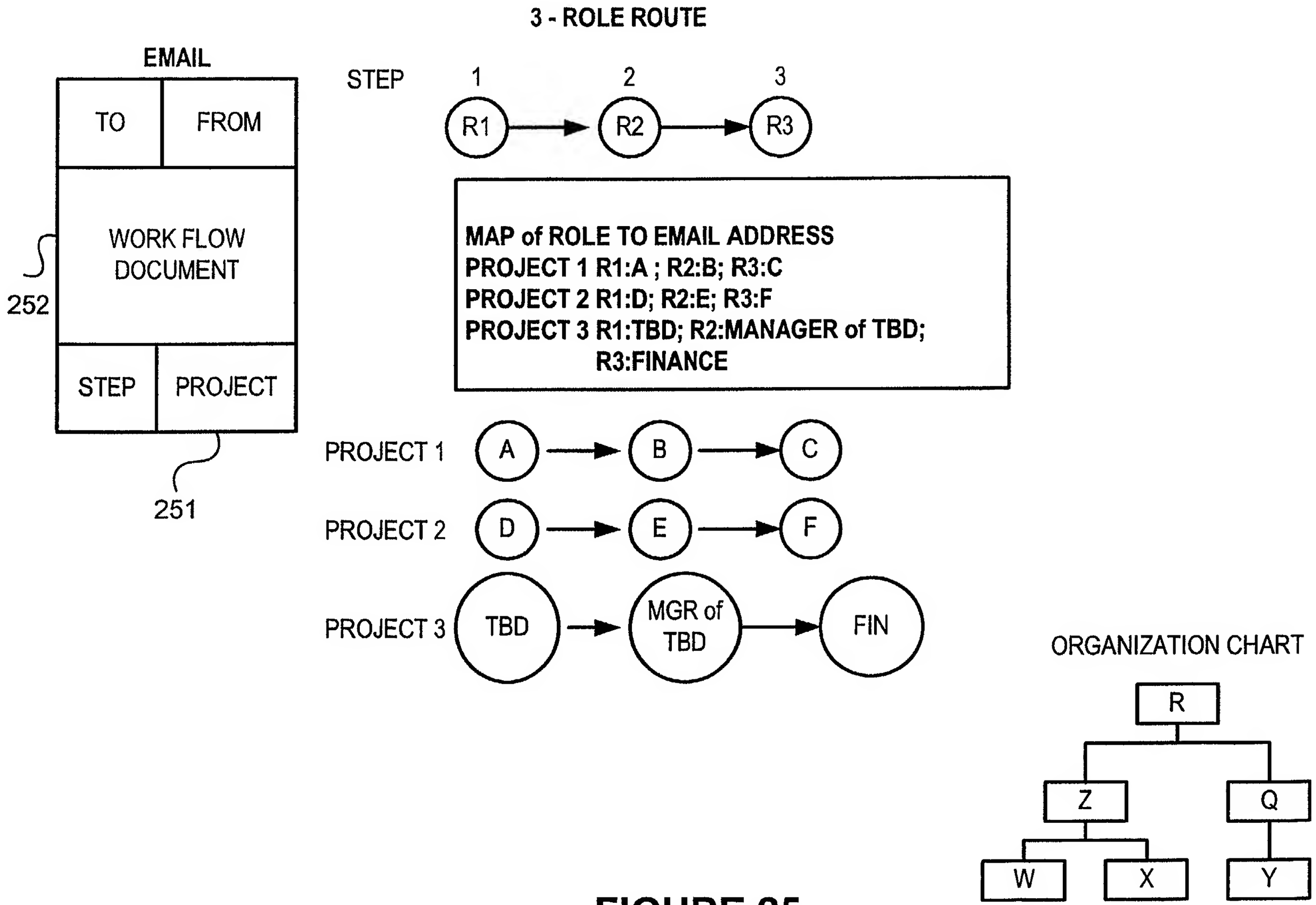

3 - ROLE ROUTE
EMAIL
TO
FROM
WORK FLOW DOCUMENT
STEP
PROJECT
252
251
STEP
1
2
3
R1
R2
R3
MAP of ROLE TO EMAIL ADDRESS
PROJECT 1 R1:A ; R2:B; R3:C
PROJECT 2 R1:D; R2:E; R3:F
PROJECT 3 R1:TBD; R2:MANAGER of TBD;
R3:FINANCE
PROJECT 1
A
B
C
PROJECT 2
D
E
F
PROJECT 3
TBD
MGR of TBD
FIN
ORGANIZATION CHART
R
Z
Q
W
X
Y

FIGURE 25

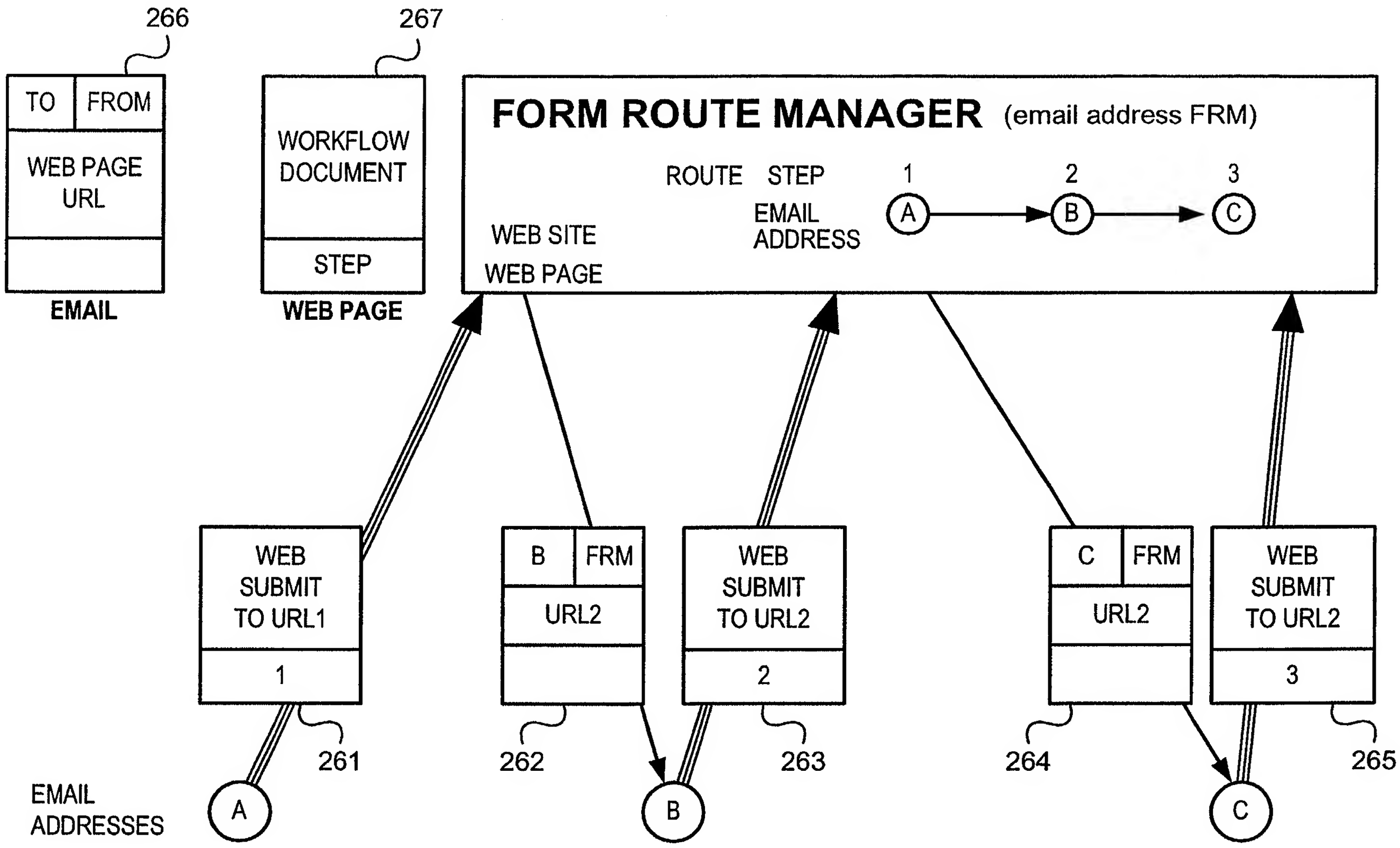

266
TO
FROM
WEB PAGE URL
EMAIL
267
WORKFLOW DOCUMENT
STEP
WEB PAGE
FORM ROUTE MANAGER (email address FRM)
ROUTE
STEP
1
2
3
EMAIL ADDRESS
A
B
C
WEB SITE
WEB PAGE
WEB SUBMIT TO URL1
1
261
B
FRM
URL2
262
WEB SUBMIT TO URL2
2
263
C
FRM
URL2
264
WEB SUBMIT TO URL2
3
265
EMAIL ADDRESSES
A
B
C

FIGURE 26

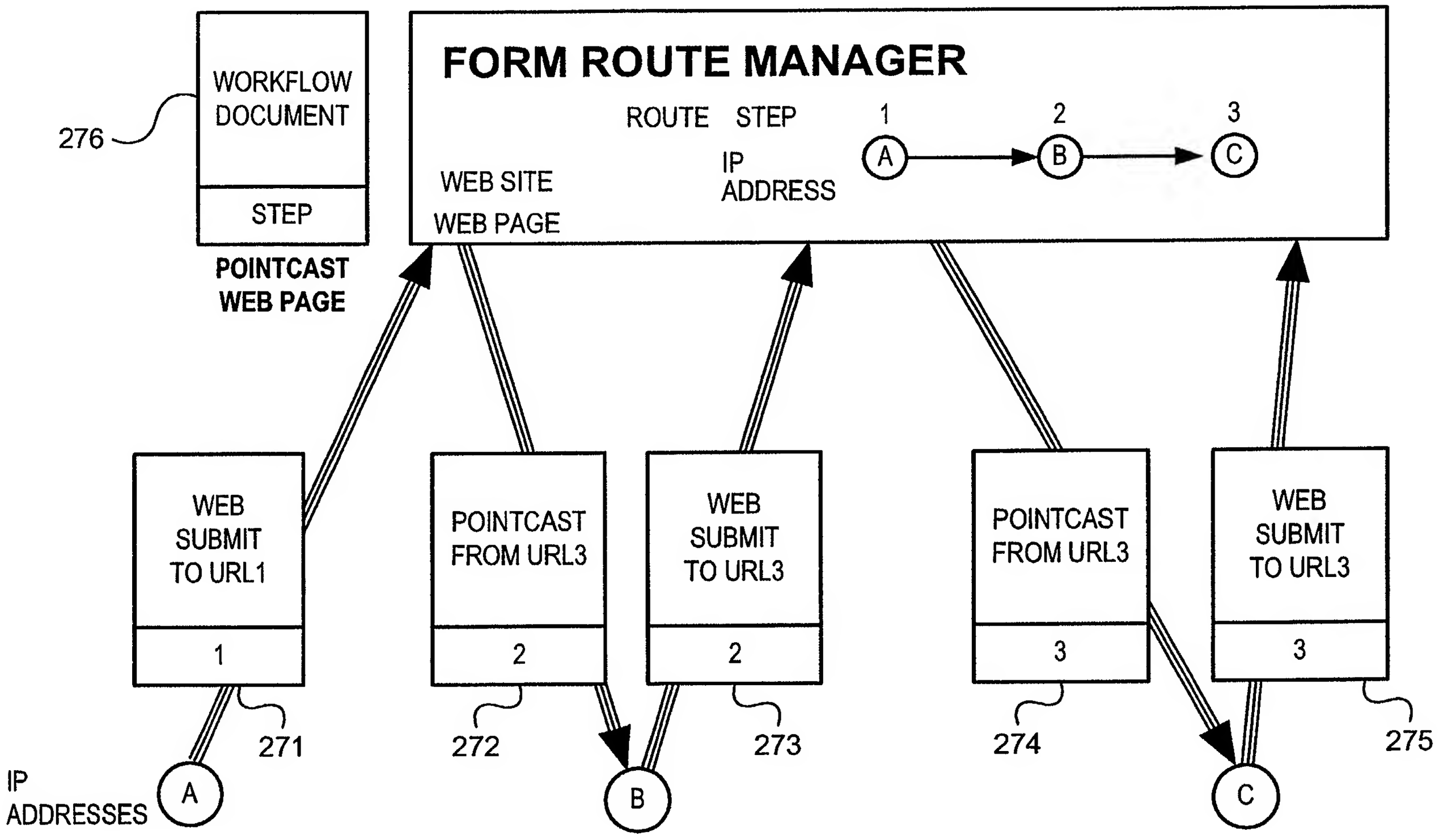

276
WORKFLOW DOCUMENT
STEP
POINTCAST WEB PAGE
FORM ROUTE MANAGER
ROUTE
STEP
1
2
3
A
B
C
WEB SITE
WEB PAGE
IP ADDRESS
WEB SUBMIT TO URL1
1
271
IP ADDRESSES
A
POINTCAST FROM URL3
2
272
WEB SUBMIT TO URL3
2
273
B
POINTCAST FROM URL3
3
274
WEB SUBMIT TO URL3
3
275
C

FIGURE 27

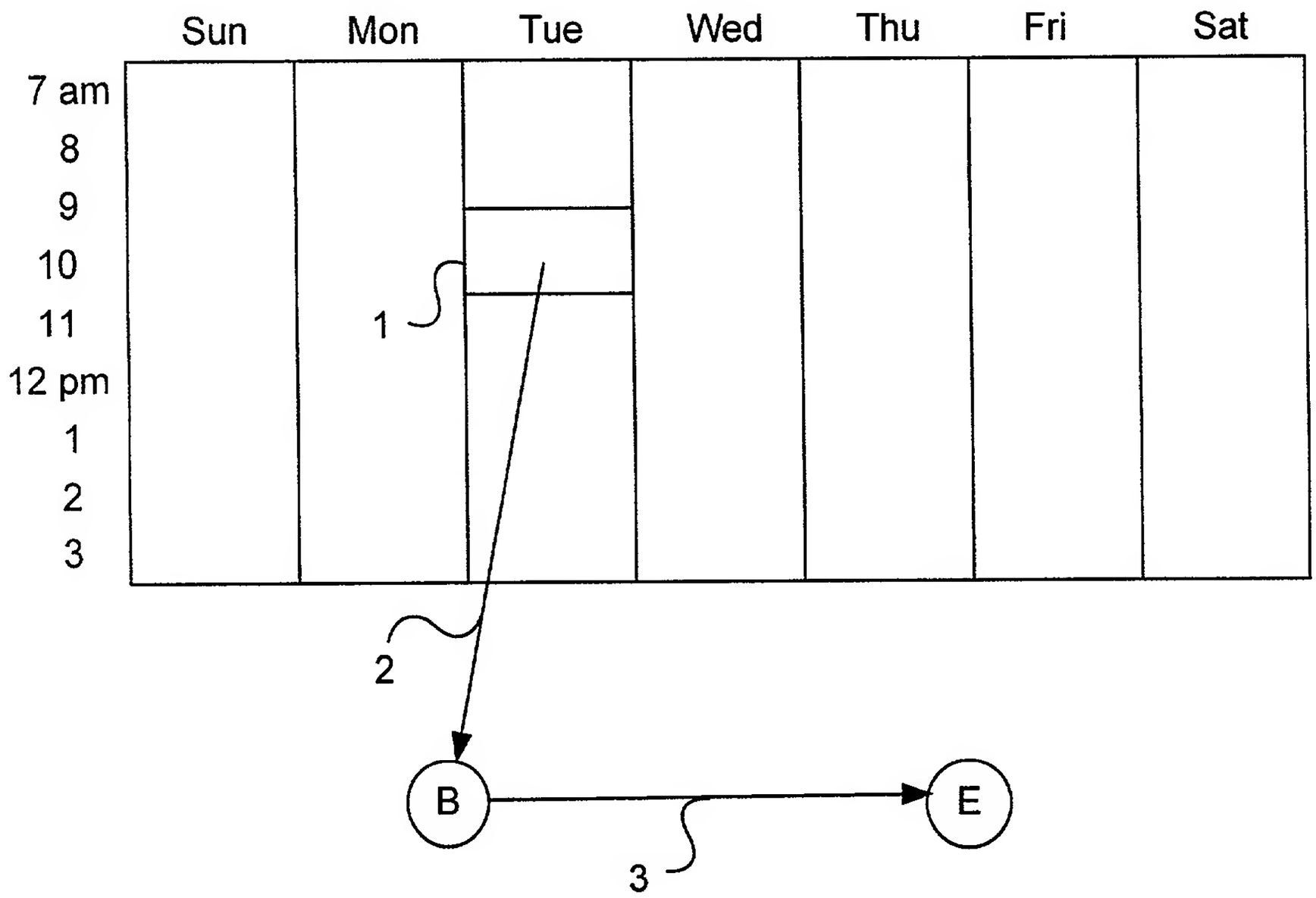
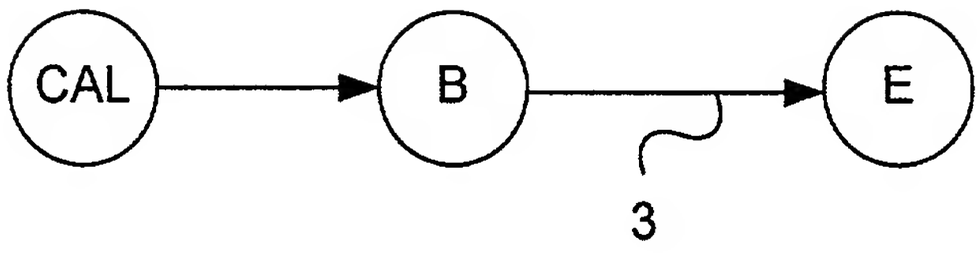


FIGURE 28


CAL
B
E
3

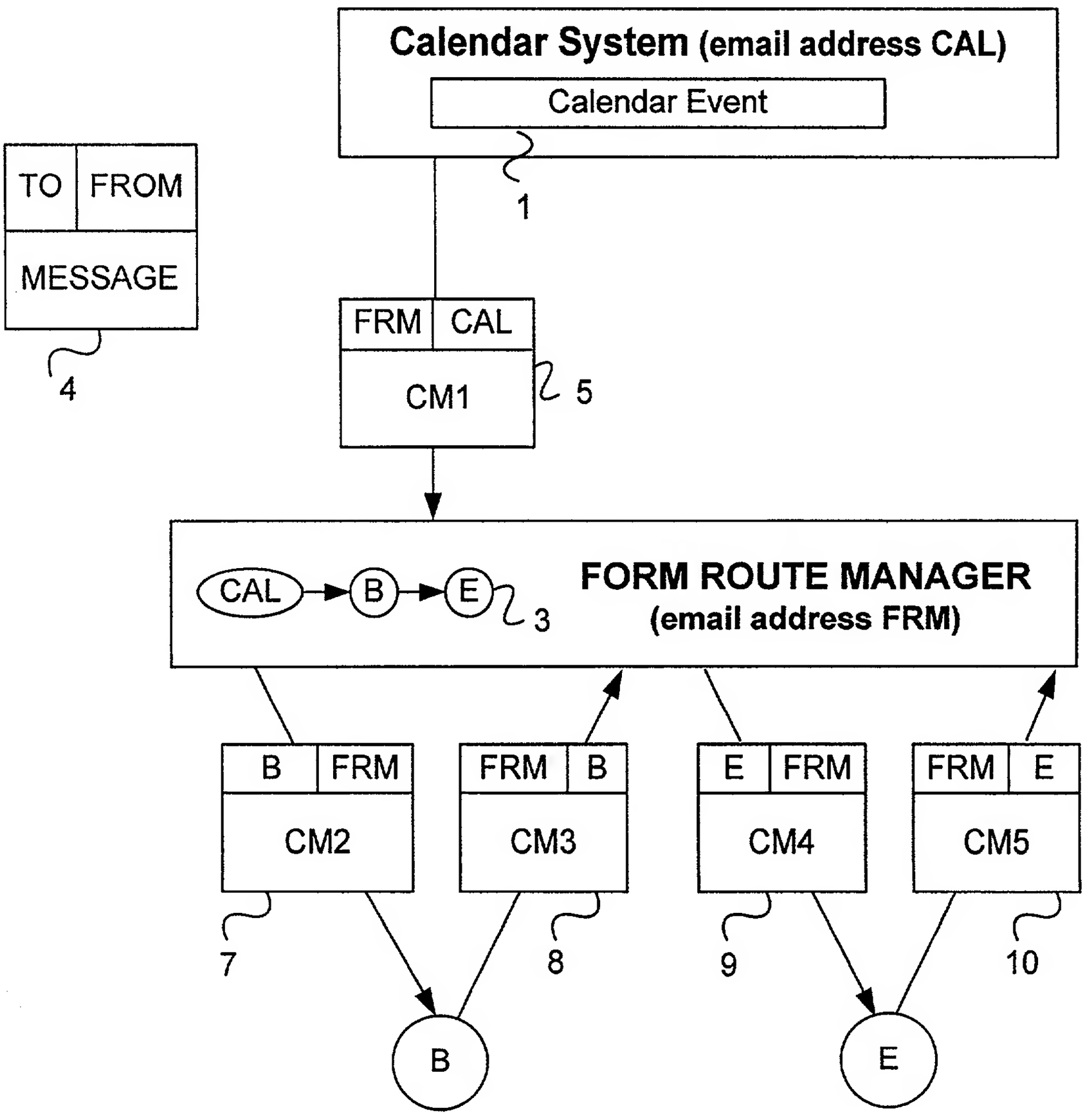

Calendar System (email address CAL)
Calendar Event
1
TO
FROM
MESSAGE
4
FRM
CAL
CM1
5
CAL
B
E
3
FORM ROUTE MANAGER
(email address FRM)
B
FRM
CM2
FRM
B
CM3
E
FRM
CM4
FRM
E
CM5
7
8
9
10
B
E

FIGURE 29

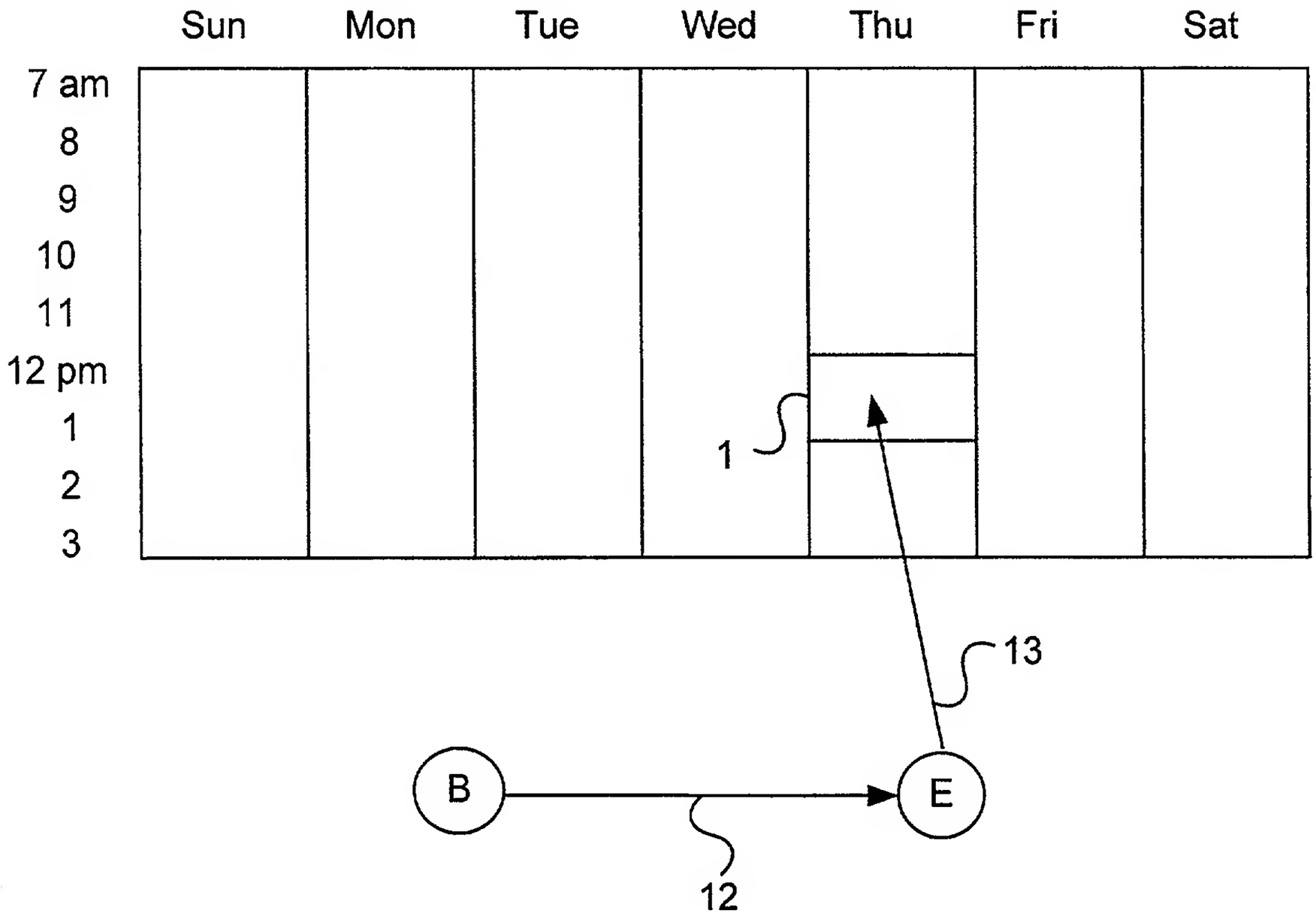
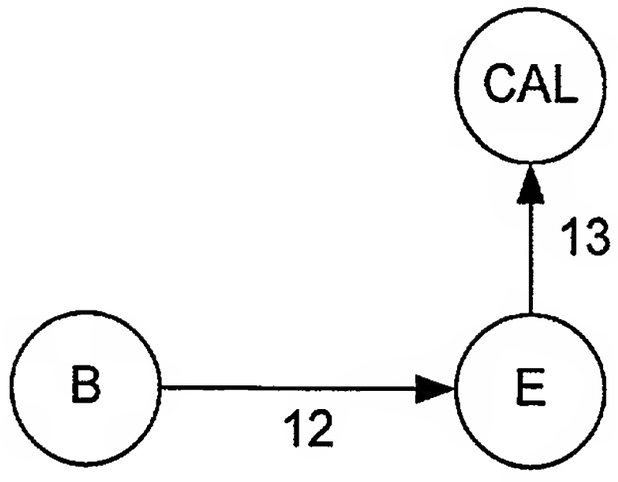


FIGURE 30


CAL
13
B
12
E

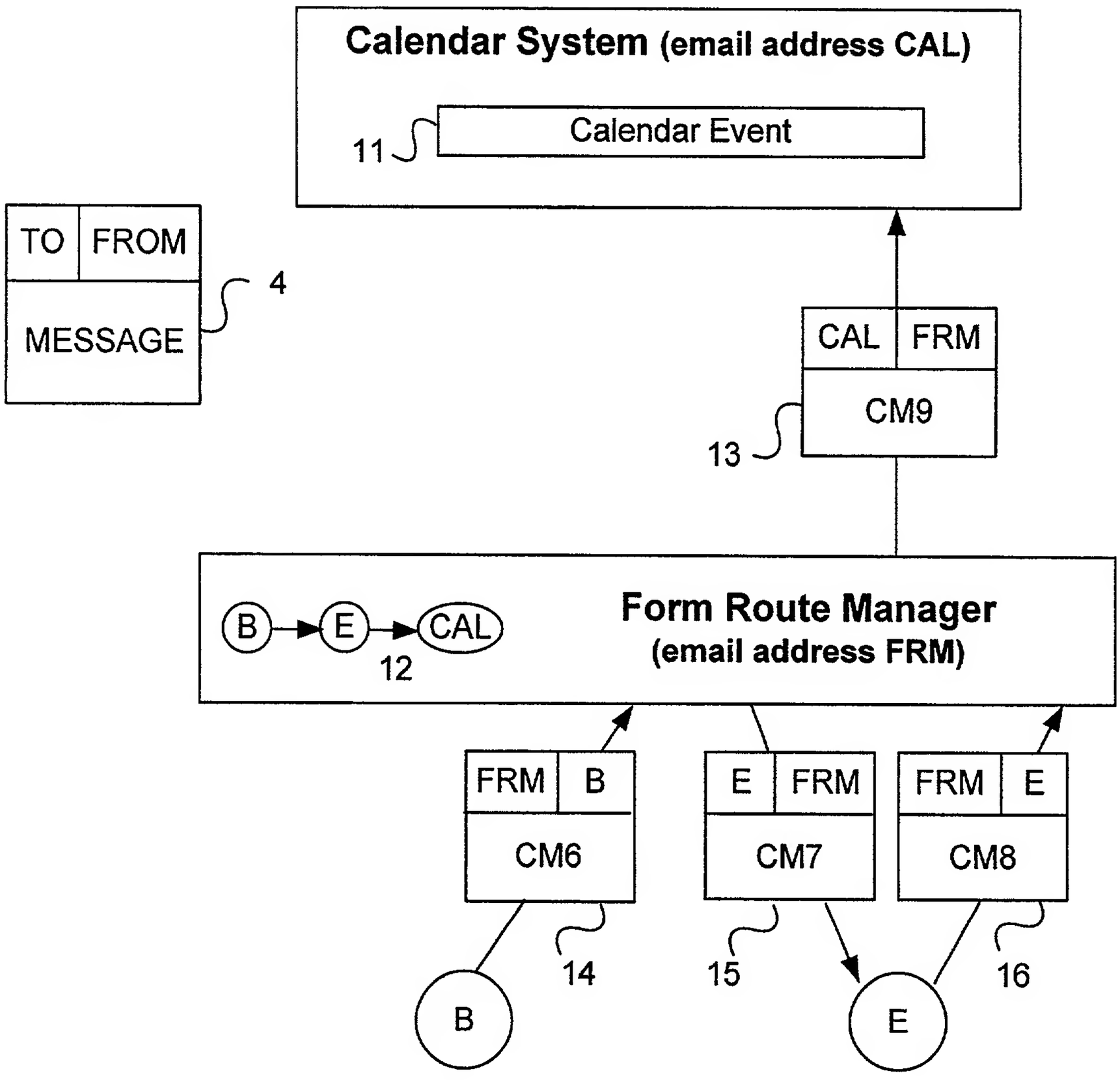

Calendar System (email address CAL)
Calendar Event
11
TO
FROM
MESSAGE
4
CAL
FRM
CM9
13
B
E
CAL
12
Form Route Manager
(email address FRM)
FRM
B
CM6
E
FRM
CM7
FRM
E
CM8
14
15
16
B
E

FIGURE 31

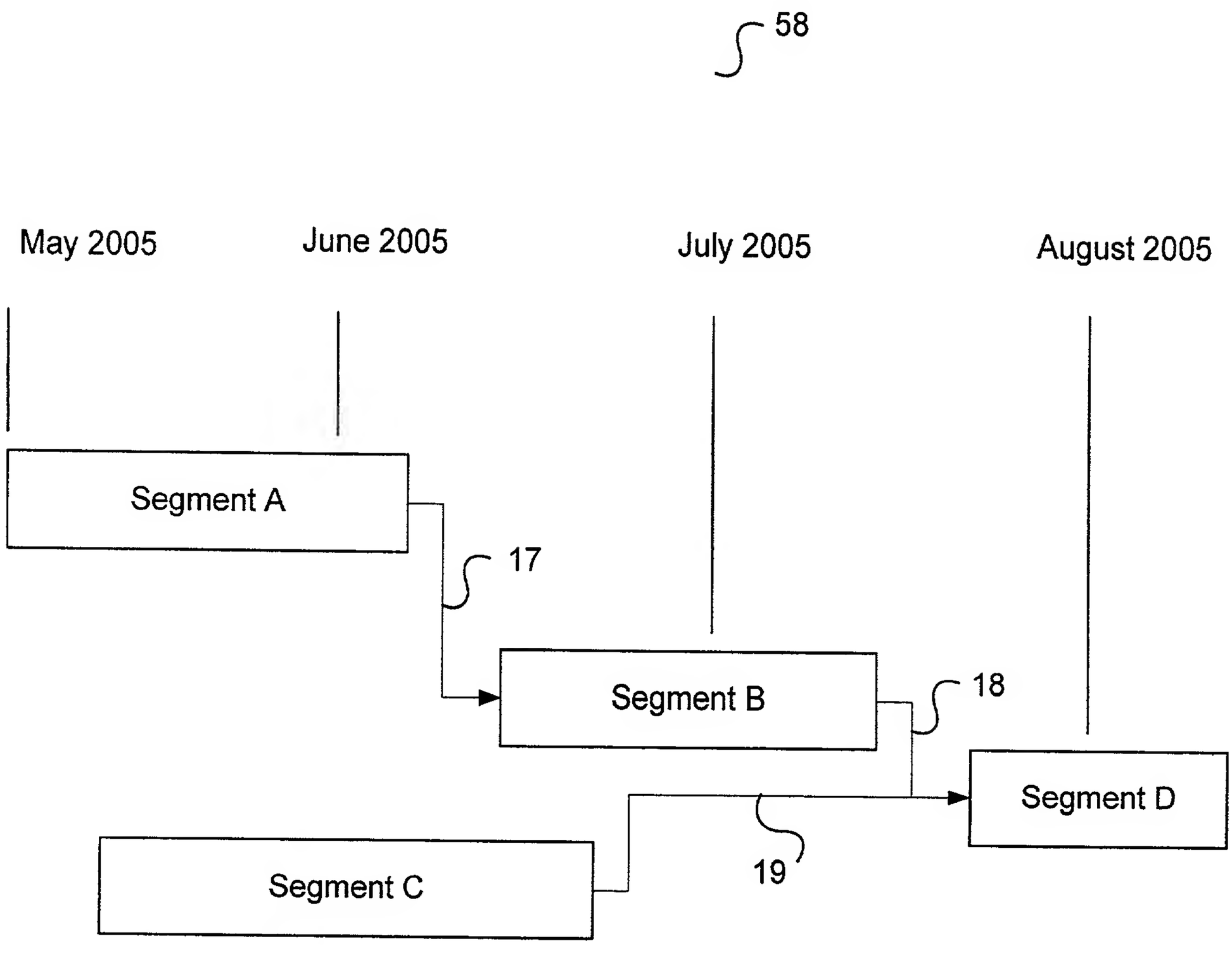

58
May 2005
June 2005
July 2005
August 2005
Segment A
17
Segment B
18
Segment D
19
Segment C

FIGURE 32

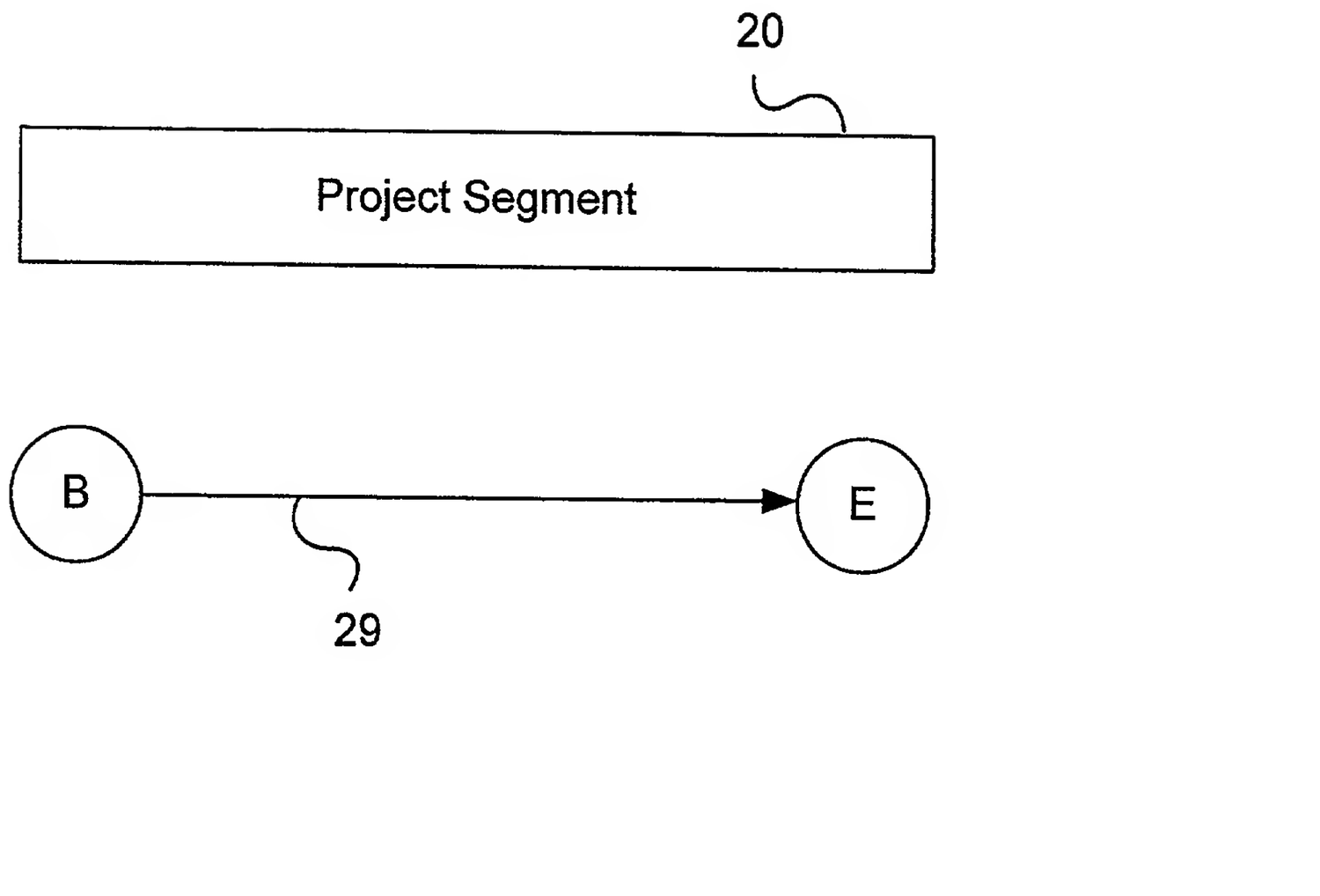
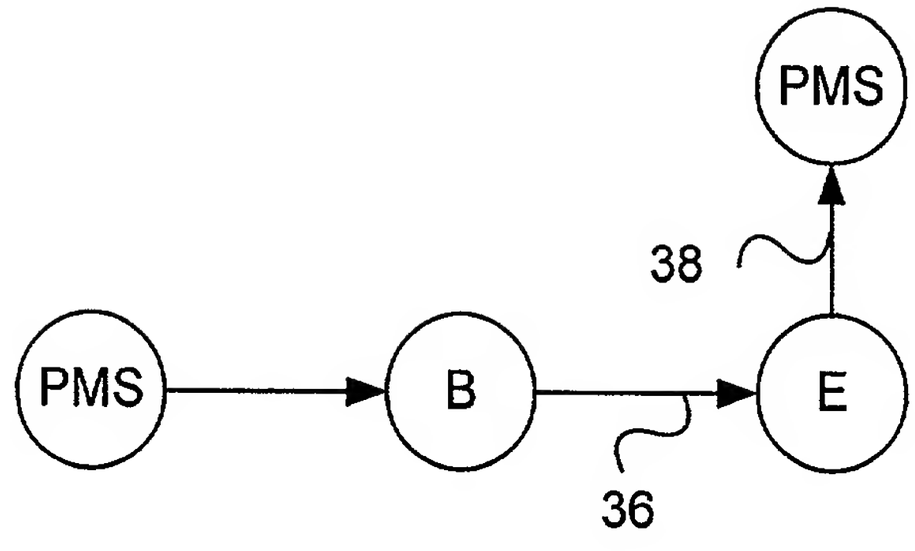

20
Project Segment
B
E
29
20
Project Segment
Project Management System
30
32
B
E
Workflow System
29

FIGURE 33


PMS
B
E
PMS
38
36

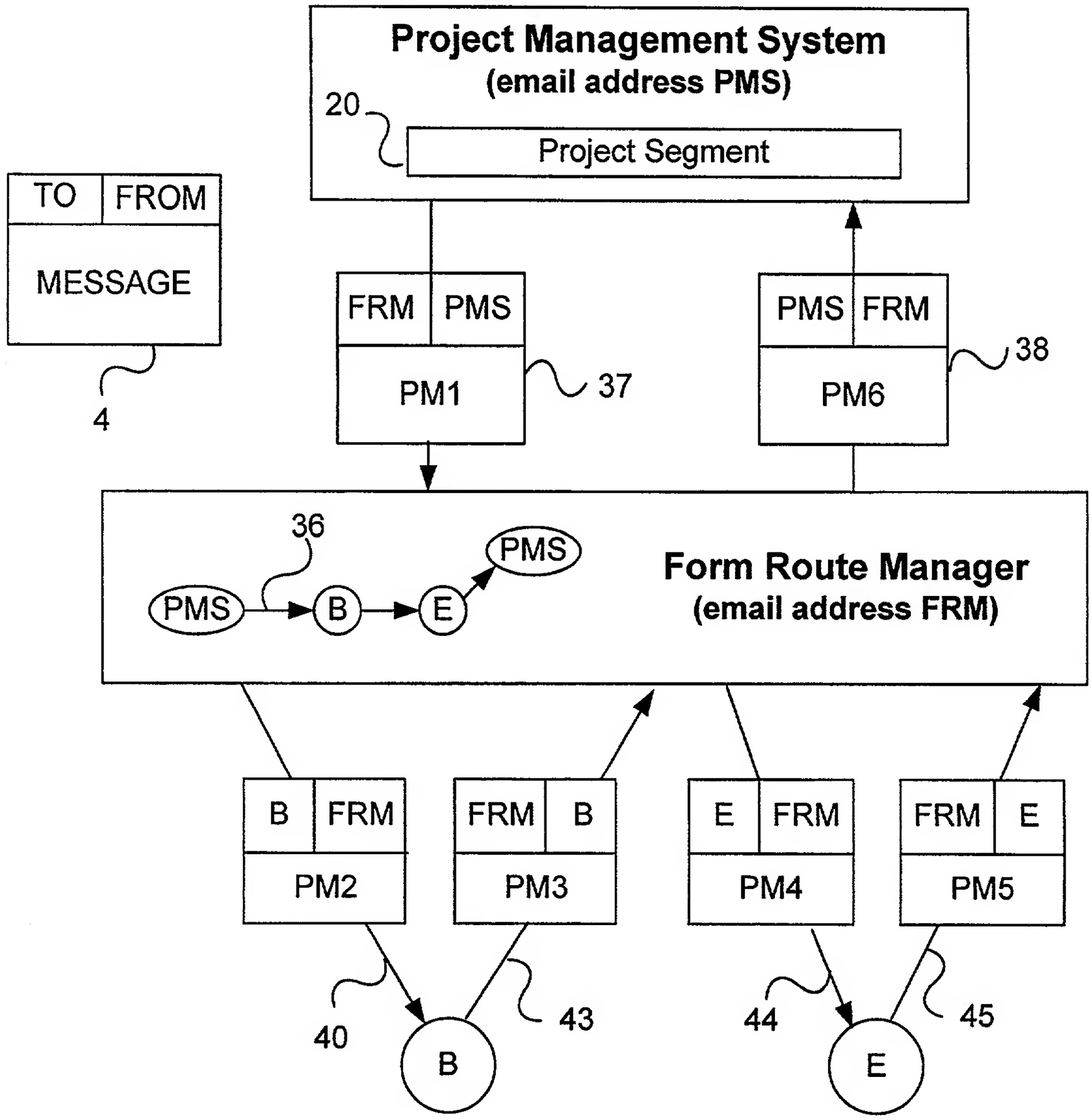

Project Management System
(email address PMS)
20
Project Segment
TO
FROM
MESSAGE
4
FRM
PMS
PM1
37
PMS
FRM
PM6
38
36
PMS
PMS
B
E
Form Route Manager
(email address FRM)
B
FRM
PM2
FRM
B
PM3
E
FRM
PM4
FRM
E
PM5
40
43
44
45
B
E

FIGURE 34

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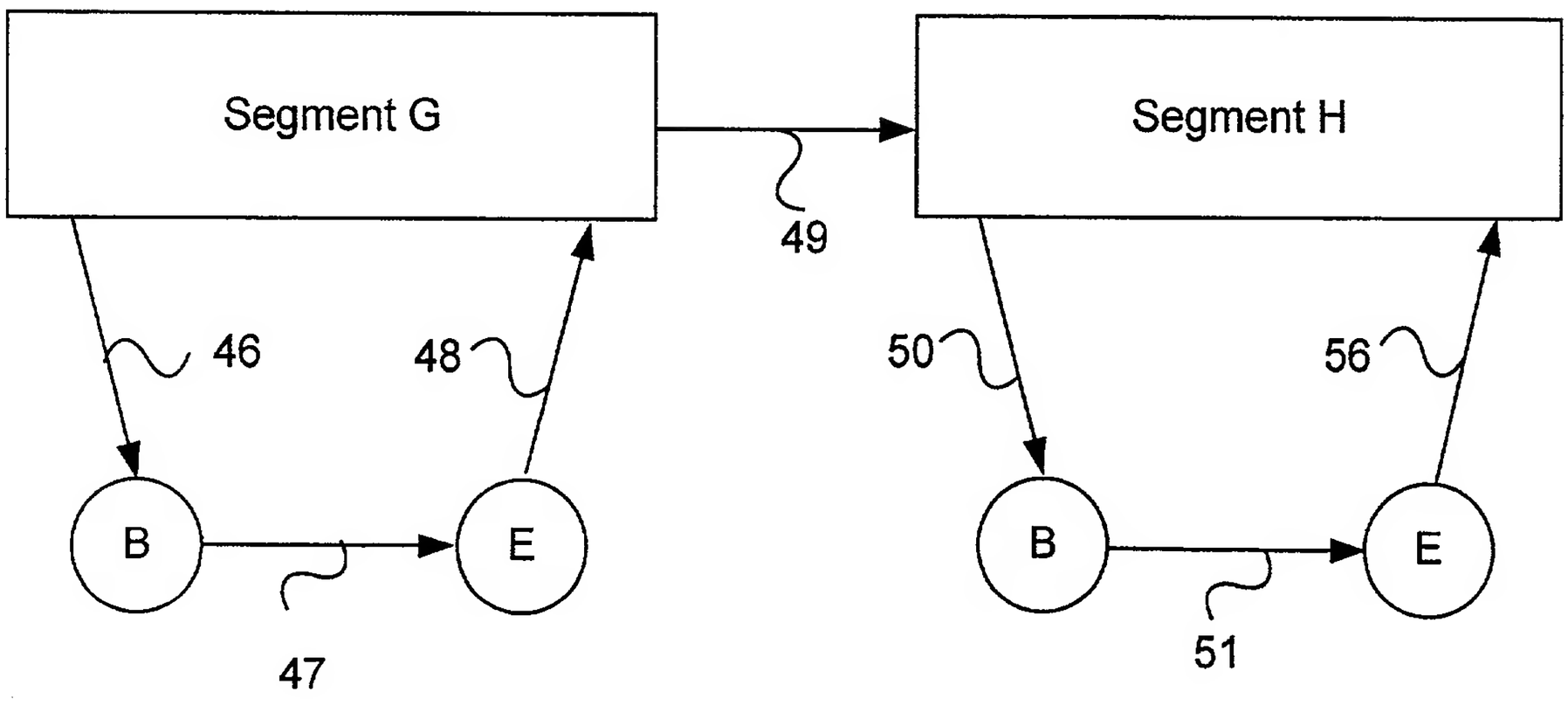

FIGURE 35

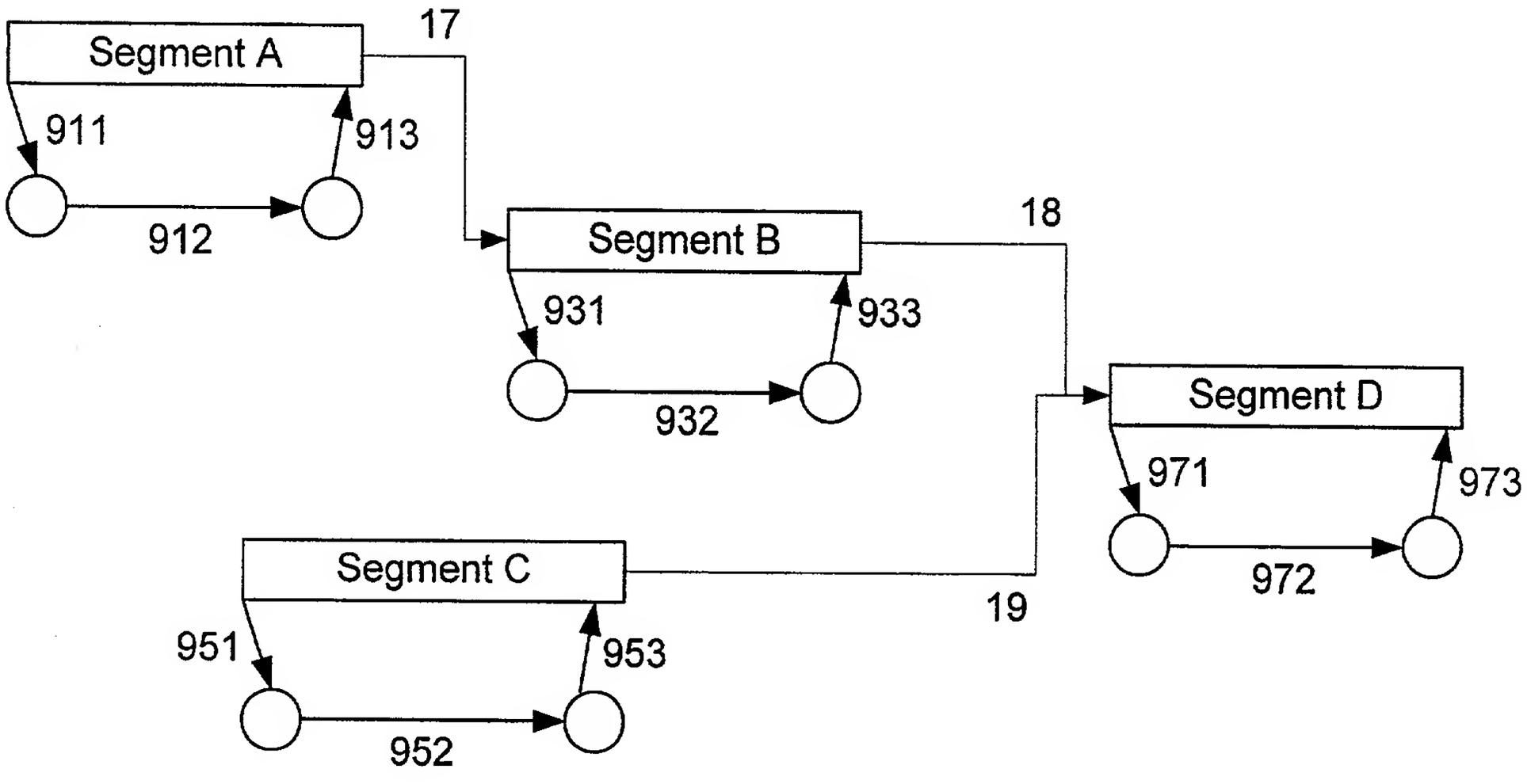
Segment A
17
911
913
912
Segment B
18
931
933
932
Segment D
971
973
972
Segment C
19
951
953
952

FIGURE 36

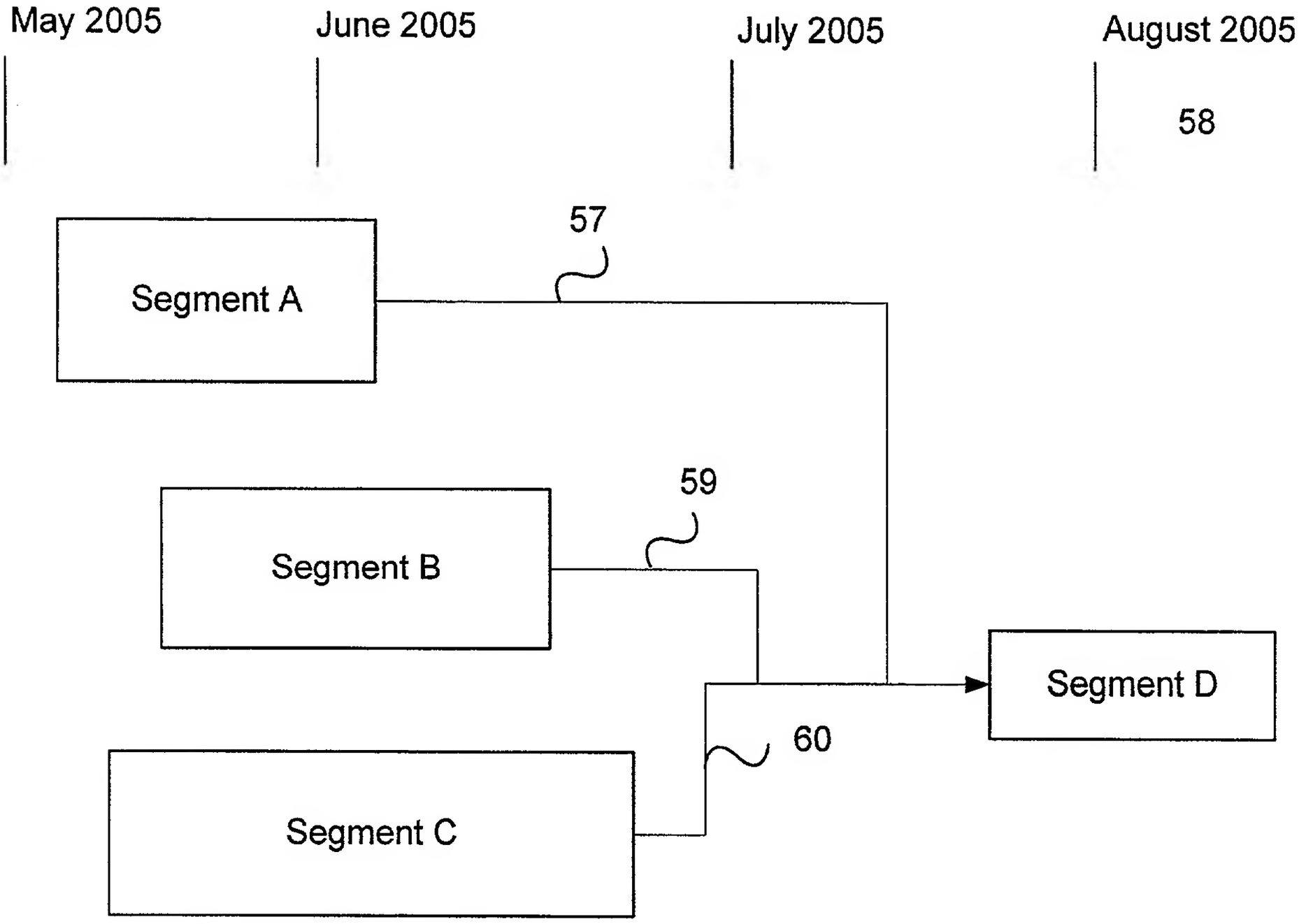
May 2005
June 2005
July 2005
August 2005
58
57
Segment A
59
Segment B
Segment D
60
Segment C

FIGURE 37

Text can't be copied

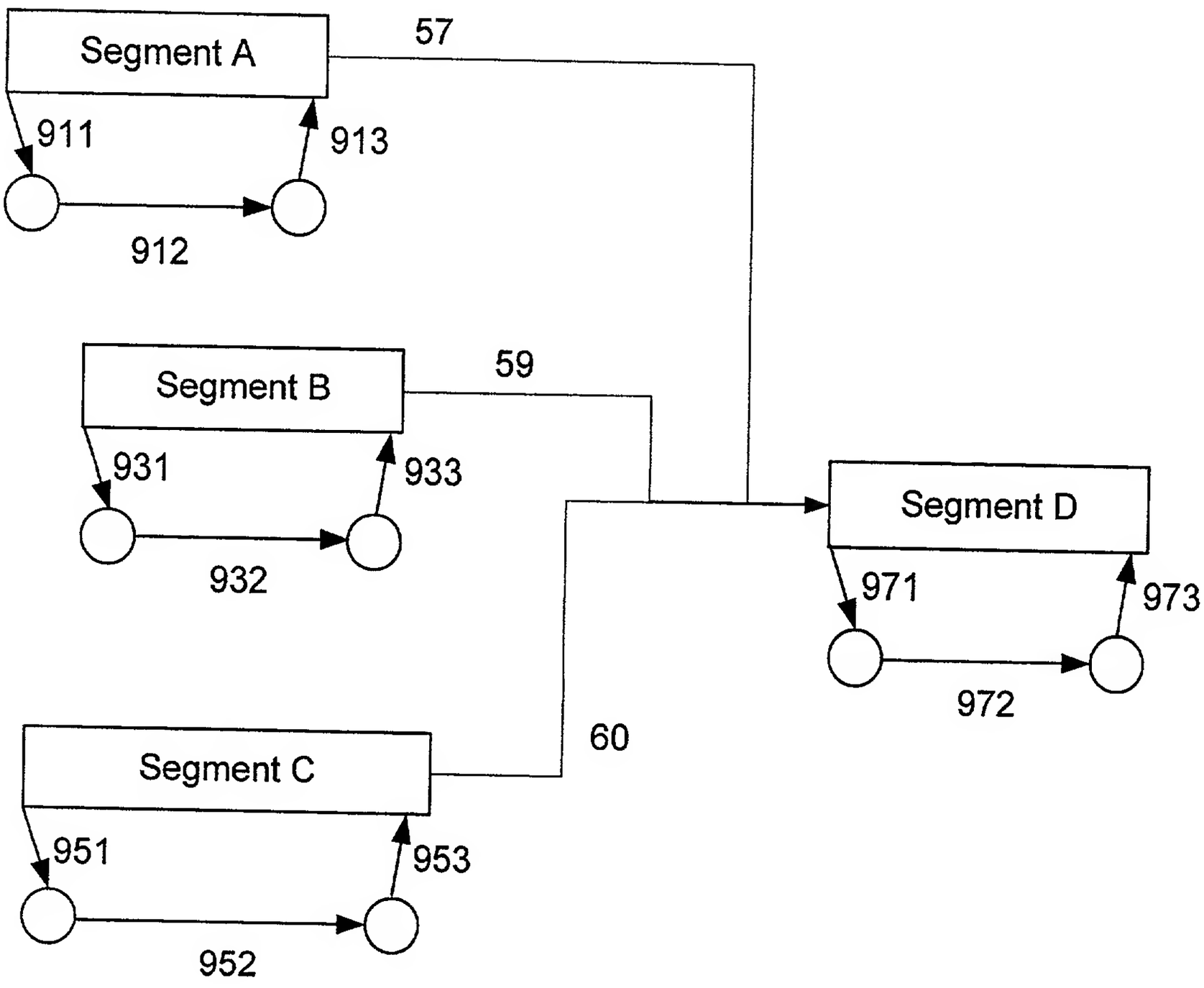

FIGURE 38

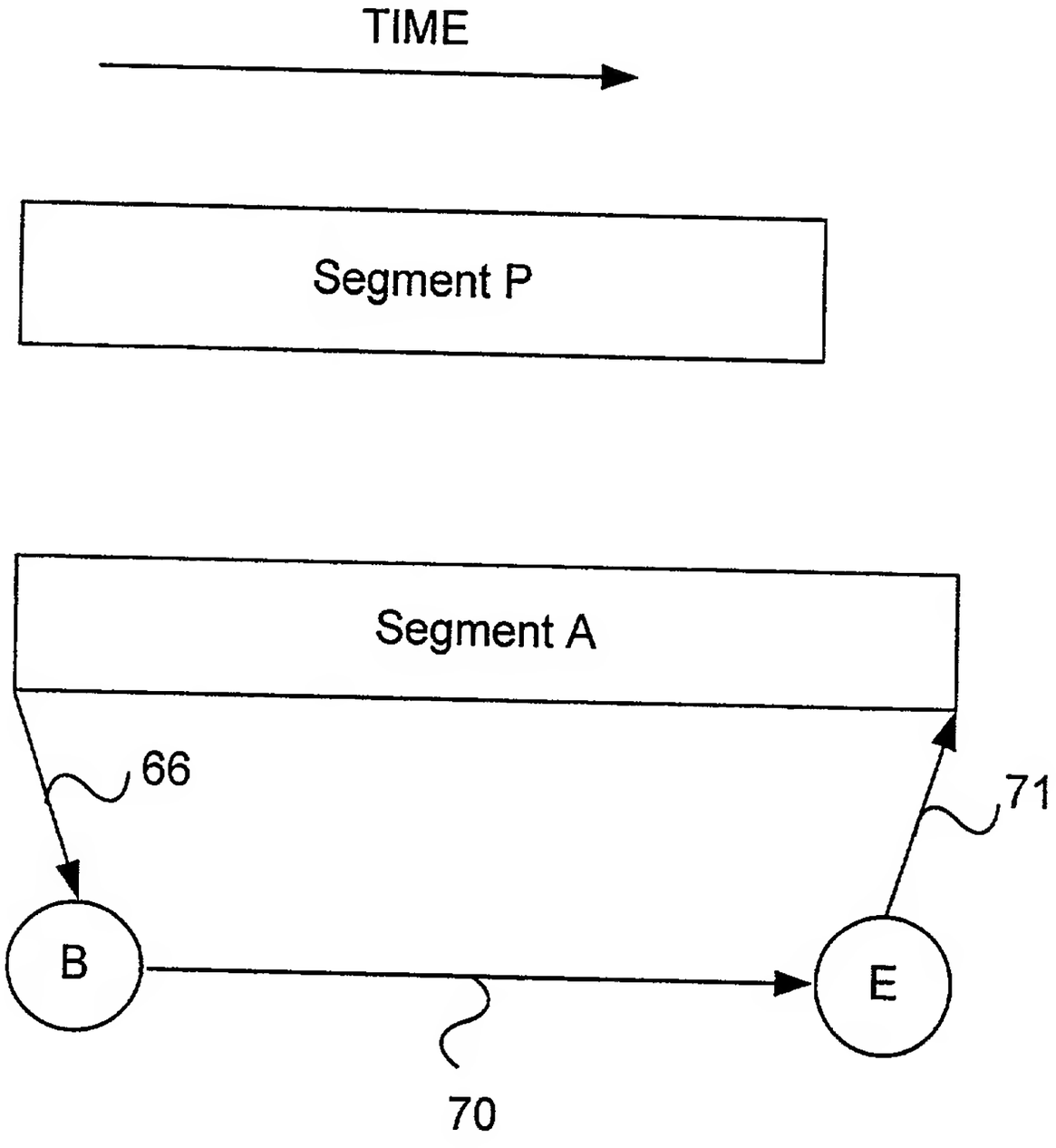

FIGURE 39

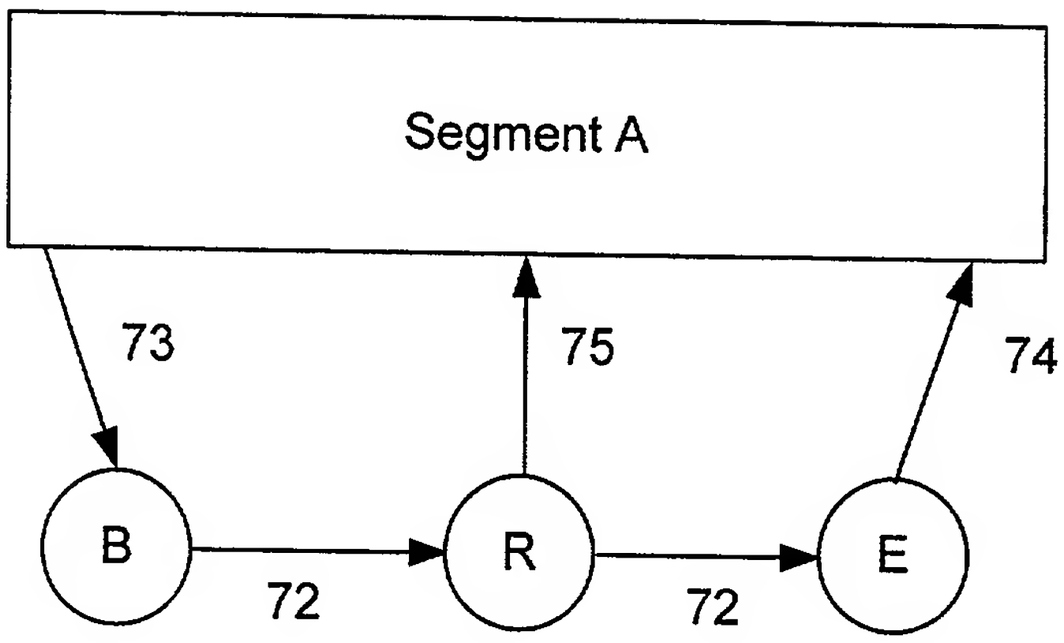

FIGURE 40A

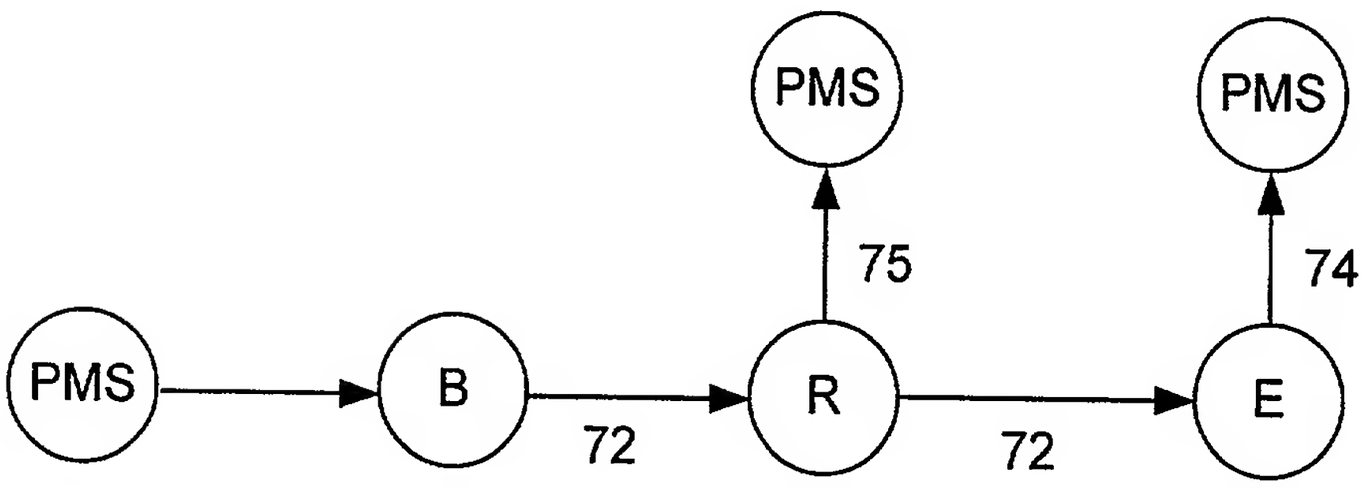

FIGURE 40B